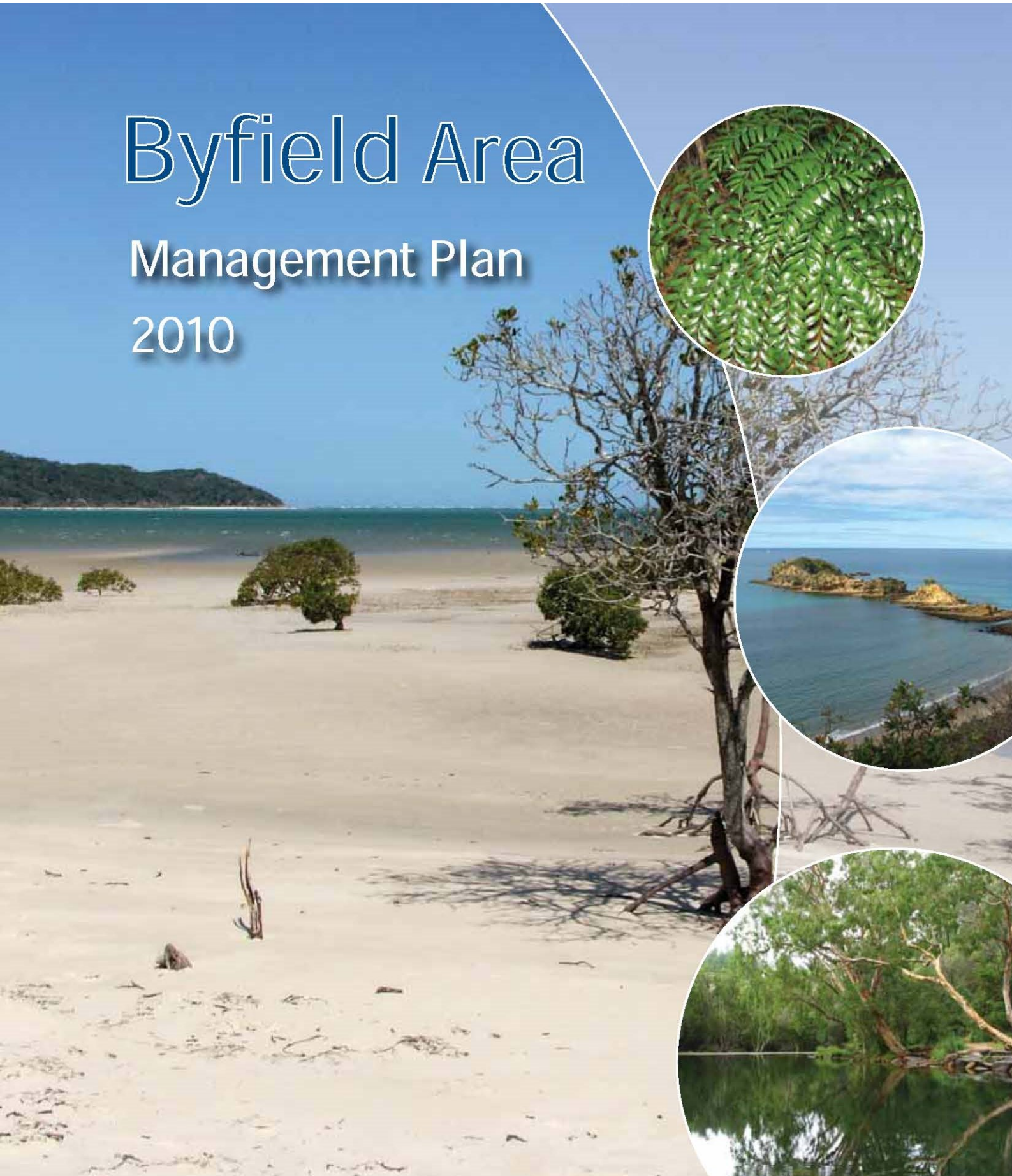


Byfield Area

Management Plan

2010



Prepared by:

Planning Services Unit, Department of Environment and Science (DES)

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The Department of Environment and Science acknowledges Aboriginal peoples and Torres Strait Islander peoples as the Traditional Owners and custodians of the land. We recognise their connection to land, sea and community, and pay our respects to Elders past, present and emerging.

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The Byfield Area Management Plan 2010 has been extended in 2023 in line with the Queensland *Nature Conservation Act 1992* (s120G). Minor amendments have been made. There has been no change to the plan's original management intent and direction.

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Front cover photographs: Corio Bay, Photo:DES

Byfield fern *Bowenia serrulata*, Five Rocks and Water Park Creek, Photos: Matt Kayes

Vision

Future visitors to the Byfield Area will be presented, as they are today, with spectacular scenery of tall forests, picturesque mountain ranges, clean flowing creeks and waterways, coastal dunes covered in an array of coastal vegetation, with colourful wildflowers in spring.

The values of the Central Queensland Coast Bioregion are conserved, and plant communities and animal species of conservation significance will be protected.

The community appreciates that the area protects the Byfield fern *Bowenia serrulata* and Byfield grevillea *Grevillea venusta* along with extensive and diverse coastal heath communities, and species of flora and fauna threatened nationally or in the State. Volunteers, neighbours and visitors actively cooperate and participate in controlling threats such as pest plants and animals, and ensuring recreation activities have minimal impact on the area's natural and cultural values.

The Yeppoon - Rockhampton community appreciates and respects Byfield as an important area for Indigenous people, and supports the reflection of Traditional Owners' knowledge, interests, rights in and aspirations for the area in all aspects of planning and management.

The community enjoys the aesthetic and environmental values of the area and demonstrates this in the respect they show to the area and to other visitors.

Visitors to the management area enjoy nature-based recreation opportunities in a range of settings, from picnicking in well-developed day-use areas to remote beach camping. Visitors enjoy these activities without impacting on the area's natural and cultural values.

Queensland Parks and Wildlife Service (QPWS) works in partnership with Traditional Owners, community groups, businesses, local government and government agencies, and involves them in resolving the area's management issues in ways that foster pride, commitment and a sense of custodianship that supports the continuing preservation of the area's values for future generations.



View from Mount Ganter, Byfield State Forest
Photo: Matt Kayes, QPWS

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Coastal Range view from Queen Mary Sandblow, Byfield National Park, Photo: Matt Kayes, QPWS

1.0 Management intent

The Byfield Area management plan includes Byfield National Park, Byfield Conservation Park, Byfield State Forest managed by QPWS, the Departmental and Official Purposes Reserve at Stockyard Point, Corio Bay and beaches of the State marine park, adjacent to these areas (Appendix A, Map 1). A multi-tenured planning approach provides an opportunity to plan and implement recreation, commercial and nature conservation activities across the broader Byfield landscape.

The primary purpose of management will be to:

- conserve the diversity and distribution of native plants and animals, particularly those species of conservation significance
- recognise the implications or likely impact of climate change on the area, and manage the ecosystems to maximise resilience, and in so doing, contribute to biodiversity conservation
- manage, where possible, pest plants and animals, with control methods having no, or minimal, adverse impacts on the natural values of the area
- reflect Traditional Owners' knowledge and interests in the area's planning and management
- identify and protect Indigenous and shared-history cultural heritage places
- monitor visitor activities, needs and expectations to provide relevant information for planning and managing visitor use
- provide a diversity of safe, sustainable, nature-based recreation opportunities
- encourage appropriate visitor activities in a manner that minimises impacts on the values and other visitors
- provide a framework to appropriately balance public and commercial access opportunities
- manage potential conflict between different users and activities
- encourage cooperative and collaborative partnerships between stakeholders for management purposes
- provide for, and encourage, bonafide scientific research, surveys and monitoring.

2.0 Basis for management

QPWS is responsible for the day-to-day management of Byfield National Park and conservation park in accordance with the *Nature Conservation Act 1992* and Regulations. Byfield National Park covers 14,650ha of the management area. Section 17 of the Nature Conservation Act specifies the management principles for national parks. Byfield Conservation Park covers an area of 90ha adjacent to the township of Stockyard Point. Section 20 of the Nature Conservation Act specifies the management principles for conservation parks. The precautionary principle will apply to all aspects of the area's management.

QPWS is also responsible for the day-to-day on-ground management of designated recreation areas in Byfield State Forest in accordance with the *Forestry Act 1959*. QPWS manages approximately 8608ha of the State forest area. Forestry Plantations Queensland manages the remaining 15,460ha of State plantation forest. Areas managed by Forestry Plantations Queensland are excluded from the management area. There are currently five specialised management areas declared under the Forestry Act in Byfield State Forest (Appendix A, Map 2). Red Rock and Upper Stony camping and day-use areas are declared State forest parks in recognition of their recreation values. There are also two scientific areas which were originally declared to protect representative areas of native vegetation of high conservation significance to use as control sites when monitoring environmental health through the State forest. The fifth special management area is a feature protection area which was declared to protect a gully that has significant scenic values.

This plan applies to Byfield National Park, conservation park, State forest managed by QPWS and adjoining tidal lands in the Great Barrier Reef Coast Marine Park (Queensland). The national park extends down to mean high water springs, and tidal lands between the mean high water springs and mean low water springs are part of the surrounding Great Barrier Reef Coast Marine Park (Queensland). Tidal lands include beaches, sand spits and rocky foreshores. The Great Barrier Reef Coast Marine Park (Queensland) is managed under the authority and provisions of the *Marine Parks Act 2004* and regulations. Section 11 of the Marine Parks Regulation 2006 provides for management plans to



Little Five Rocks Beach and headland, Photo: Matt Kayes, QPWS

apply to tidal lands adjoining national parks. Inclusion of the tidal lands in this plan will help QPWS manage the national park and adjoining tidal areas in a consistent manner.

Corio Bay is in the Shoalwater Bay and Corio Bay (Queensland) Ramsar area – an area recognised as a wetland of international significance.

Corio Bay and the beaches in the management area lie in the Great Barrier Reef Coast Marine Park (State marine park). There is also a small section of beach at the southern end of Five Rocks Beach which lies in the habitat protection zone (Appendix A, Map 3).

The provisions of the *Environment Protection and Biodiversity Conservation Act 1999* (Commonwealth), Ramsar and subordinate regulations apply to the national parks because of their World Heritage listing and presence of migratory species listed under the Bonn Convention, the China-Australia Migratory Bird Agreement, Japan-Australia Migratory Bird Agreement and Republic of Korea-Australia Migratory Bird Agreement.

Endangered and of concern regional ecosystems are described under the *Vegetation Management Act 1999* and *endangered, vulnerable and rare* species are listed under the Nature Conservation (Wildlife) Regulation 2006. QPWS is responsible under the *Land Protection (Pest and Stock Route Management) Act 2002* for controlling declared pest plants and animals on protected areas.

The management plan provides directions to manage a Departmental and Official Purposes Reserve at Stockyard Point; this reserve is gazetted under the Land Act. The small reserve covering about 1.2ha (Lot 1 on CP863044; Appendix A, Map 1) at Stockyard Point is managed by QPWS through a trustee agreement under the Land Act. This allows QPWS to manage the area consistently with management of the nearby national park, conservation park and State forest.

A Fish Habitat Area has also been declared over the waters and wetlands of Corio Bay (Appendix A, Map 3). Fish Habitat Areas are administered under the *Fisheries Act 1994* by the Department of Employment, Economic Development and Innovation to protect fish habitats (such as the wetlands, sand bars and waters) from direct physical disturbance and development, helping to maintain local and regional fisheries.

The Rockhampton Regional Council currently regulates the use of vehicles on all beaches in the management area under the Rockhampton Regional Council Subordinate Local Law 17 (Parks and Reserves) 2007. Under this local law, four-wheel drive vehicles are permitted to drive on Farnborough Beach and Nine Mile Beach, and motorbikes and quad bikes are permitted to drive on Nine Mile Beach. Vehicle use is not permitted on other beaches in the management area.

Sandy Point, part of Byfield National Park can also be accessed from a private road owned by Iwasaki Sangyo Corporation (Ryldges Resort) (Appendix A, Map 6). Access is provided to QPWS through the provisions set out under section 15 of the *Queensland International Tourist Centre Agreement Act Repeal Act 1989*. This provision does not provide for public access; however, Iwasaki Sangyo has allowed the access to be used by the public.

Legal vehicle access to Stockyard Point is via the sea, although most land holders access their properties on the national park road. The Departmental and Official Purposes Reserve at Stockyard Point is the only land parcel in the township considered in this management plan.

A Native Title claim has been lodged over the area on behalf of the Darumbal people. This plan is not intended to impinge on any native title rights or interests. The plan will facilitate the involvement of the Traditional Owners in the management of the area. Indigenous cultural heritage places are a custodial responsibility of Traditional Owners. Cultural heritage places in the management area are legislatively managed under the *Queensland Heritage Act 1992* and the *Aboriginal Cultural Heritage Act 2003*. Cultural resource management is in accordance with the Charter for the Protection and Management of Archaeological Heritage and the Burra Charter, which provides detailed guidelines for the management of cultural heritage places.

The State Coastal Management Plan describes how the surrounding waters will be managed in the statutory planning and development assessment framework of the *Coastal Protection and Management Act 1995*. It defines the national park and conservation park as areas of State significance for both their natural resources and scenic coastal landscapes. It identifies the waters for low-key, nature-based visitor opportunities.

3.0 Location and regional context

The management area covers about 22,000ha and is located 30km north of Yeppoon and 84km north east of Rockhampton. It is bordered to the north and north-west by the Shoalwater Bay Training Area, a large natural area owned and managed by the Commonwealth Government. Freehold land owned by Forestry Plantations Queensland and Iwasaki Sangyo lies to the south. Forestry Plantations Queensland manages native forest and plantations of native and exotic pine trees on State forests designated as State plantation forest (Appendix A, Map 1). Most of the northern part of Ryldges Resort land remains in a natural, undeveloped state. The combination of

the management area and adjacent land makes the broader Byfield area one of the largest undeveloped sections of Australia's east coast.

There are two townships, Byfield and Stockyard Point, associated with the management area (Appendix A, Map 1). Byfield has a population of about 250 people and supports cottage industries, ecotourism style accommodation ventures and basic corner store facilities. It provides a welcome and increasingly important attraction for tourists to the Capricorn Coast region. Stockyard Point is a smaller township surrounded by the Byfield Conservation Park.

From the Byfield Area, visitors can explore other natural places in the Capricorn Coast and Capricorn region, including:

- Capricorn Coast National Park, Keppel Sands Conservation Park, Flat Top Range Resources Reserve and Mackenzie Island Conservation Park to the south
- Keppel Bay Islands National Park, adjoining Great Barrier Reef Coast Marine Park and Great Barrier Reef Marine Park to the east
- the natural wonders of a volcanic plug at Mount Jim Crow National Park, located on Yeppoon - Rockhampton Road
- the unique underground cave system at Mount Etna Caves National Park to the west.

4.0 Protecting and presenting the park values

This section outlines the special natural and cultural values of the management area, and policies, actions and guidelines to protect and present these values.

4.1 Landscape

4.1.1 Scenic amenity

The management area is located in a diverse, undeveloped region on the Queensland coast.

The foreshore consists of long, sandy beaches intersected with rocky headlands and the Five Rocks outcrop. Infrastructure and residential development is well hidden from the foreshore, creating a natural scenic landscape that can be viewed from the water, headlands and foreshore. This natural coastal landscape is becoming rare along the Queensland coast due to continued urban development in non-protected areas.

Behind the foreshore, massive sand dunes (known as parabolic dunes) are cloaked with heath, woodland and forest-dominated landscapes. Two significant sand

blows, Orange Bowl and Queen Mary (Appendix A, Map 4), provide breaks in the vegetation and contribute to the diversity in the natural landscape setting. Further inland, lowland swamps, rainforest-edged creeks, pine plantations and rugged mountains complement the diverse coastal landscape.



Swamp Banksia Country, Byfield National Park, Photo: Matt Kayes, QPWS

Mount Atherton rises to 438m (Appendix A, Map 4) above sea level and contains part of the water catchments for Sandy and Stony creeks. Stony Creek finishes in Water Park Creek.

Corio Bay is a shallow bay with a tidal range of approximately two to three metres, which exposes large sections of coastal shoreline at low tide. This is a very dynamic section of coastline where large amounts of sand can be moved in a few tides. These natural processes provide an ever-changing and spectacular scenic amenity.

The scenic landscapes of the sand and waters in the bay are not found elsewhere along the Capricorn Coast. An increasing number of unpermitted structures are mooring in Corio Bay for long periods of time and are detracting from the scenic amenity values of the bay.

There are currently two designated areas for boats to launch into Corio Bay. One is located at Sandy Point into Fishing Creek and the other off the northern beach of Corio Bay (Appendix A, Map 9). These boat launch locations are natural. Building semi-permanent or permanent built structures for boat launching is likely to impact on the vista of Corio Bay.

The scenic amenity values of the management area are an important part of the attraction for visitors to the area and therefore are of social and economic importance to the local community.

Table 1 Management strategy for scenic amenity

Desired outcome 2020	Actions and guidelines
<p>The management area is retained as a relatively undeveloped coastal landscape.</p> <p>Infrastructure supporting recreation and management are not adversely impacting on landscape values.</p> <p>No vessels or structures are permanently moored or permanently anchored in Corio Bay.</p> <p>The vehicle track network does not impact on the scenic amenity values.</p>	<p>A1. Ensure infrastructure (other than roads, walking tracks and information) is contained to the existing visitor areas in the management area.</p> <p>A2. Ensure new or upgraded recreation and management facilities blend with the natural landscape as far as possible, particularly in respect to design and colour scheme.</p> <p>A3. Infrastructure that will be seen from the sea or coastal lookouts will generally not be supported unless essential for visitor safety or area's management. In such cases, landscape impacts should be mitigated to the greatest possible extent.</p> <p>A4. No private mooring to be permitted in Corio Bay.</p> <p>A5. Waters in Corio Bay to have no permanent structures or facilities.</p> <p>A6. Ensure vessels anchor in Corio Bay in accordance with the State zoning plan.</p> <p>A7. Rationalise and maintain the track system in the management area as outlined in Appendix A, Map 6.</p> <p>A8. Avoid developing tracks and roads where they can be viewed from the sea or coastal lookout points, or where they provide a significant scar on the landscape (for example, directly up hill slopes and dunes).</p> <p>A9. Investigate opportunities for developing voluntary conservation agreements (such as nature refuge agreements) with adjoining land owners.</p>



Lower Swamps, Byfield National Park, Photo: Matt Kayes, QPWS

4.1.2 Marine and coastal environments

The coastline in the management area is a highly dynamic system. Natural forces shape the coastline through a combination of erosion and accretion. For example, the entrance to Corio Bay was once located just to the north of Bangalee, about 12km south of its current location. The combination of onshore sediment transport and slight northward longshore transport in the Bangalee area, and some southward longshore transport along Nine Mile Beach, gradually moved the entrance to Corio Bay to the north and caused the formation of the spit at Sandy Point.

Over the past 90 years, there has been a continuation of the northern growth to the Sandy Point spit. In 2006, a combination of events removed 500m of vegetated dune and drastically changed the area for recreation use and shorebird roosting and nesting. Although the area is always dynamic, this was a massive event for Corio Bay, and will have impacts on the area well into the future. These changes have become a problem for launching boats, as the site has soft sands with steep slopes, which have resulted in vehicles becoming bogged and submerged. The dynamics and unknown future movements will require an adaptive management approach to protect infrastructure and ensure that conflict between recreation users and shorebirds is minimised.

Nine Mile Beach and the northern section of Farnborough Beach have a historical trend of dune erosion. This is due largely to the exposed nature of these beaches compared with the more southern beaches where the Keppel Bay islands provide some protection from wind and wave action. Past cyclones and storm surges have also contributed to significant erosion events. However, between 1975 and 1996, the trend has been towards accretion on the beaches in the management area. These natural coastal processes only become a problem when development and infrastructure is threatened, or when access to areas is compromised. Infrastructure should be excluded from areas likely to be impacted or altered by natural processes. Impacts from natural processes are likely to be exacerbated by climate change.

Coastal waters are a major attraction for many visitors. The beaches, sea and waters of Corio Bay add significantly to the scenic amenity of the Byfield area, and are valued recreation areas. Activities in the broader management area have the potential to impact on the amenity and quality of marine park waters.

Disturbed soil can lead to sedimentation of the water courses that flow out into the marine park.

Likewise, any pollution, both nutrient and physical, is likely to flow through the catchment and end up in the marine environment. Rubbish left by visitors can impact on marine animals – entanglement of turtles, fish and dugong in fishing line, and ingestion of floating debris such as plastic bags and cigarette butts causing choking are examples of potential impacts. Toilet waste or chemicals used for pest plant control can also have adverse impacts on the quality of marine park waters by contributing to algal blooms or damaging seagrass and reefs. Direct disposal of waste into marine park waters is not permitted. It is important that land-based management and recreation activities do not cause impacts on the end point of catchment processes – the marine environment.



Stockyard Lookout, Photo: Matt Kayes, QPWS

Table 2 Management strategy for marine and coastal environments

Desired outcome 2020	Actions and guidelines
Natural coastal processes occur with minimal human intervention. Park operations, commercial and recreation activities are not adversely impacting on the health and amenity of the marine environment.	<p>A10. Ensure infrastructure is located as far landward as practical.</p> <p>A11. For essential development on the foredunes threatened by natural coastal processes (such as tracks and bollards), adopt a strategy of retreat rather than protecting the development.</p> <p>A12. Permanent beach protection structures should not be used. If temporary structures are to be installed, biodegradable products are to be used.</p> <p>A13. Allow natural sand movement processes to continue to operate in Corio Bay without interference (including no dredging of channels or construction of beach protection structures).</p> <p>A14. Vehicles, camping, built structures and fires will be discouraged from erosion-prone areas to prevent erosion and enhance the natural values of the area.</p> <p>A15. Rehabilitation of the foredunes will be assessed with regard to long-term natural cycles, hydrology, landform and biology of vegetation and nesting species.</p> <p>A16. Monitor beach access points, coastal tracks and foredunes for signs of degradation from visitor and management use.</p> <p>A17. Prohibit toilet waste disposal from vessels in Corio Bay.</p> <p>A18. Maintain the long-standing policy of not providing rubbish bins.</p> <p>A19. Ensure visitors are aware of the need to take all rubbish out of the management area.</p> <p>A20. Encourage appropriate disposal of toilet waste by campers.</p> <p>A21. If coastlines are being impacted by visitors or management, an assessment of the impacts will be completed and appropriate action taken.</p>

4.1.3 Land tenure

There are many land parcels in, and associated with, the management area.

There are a number of parcels of unallocated State land on the southern side of Corio Bay (Appendix A, Map 5) that have not yet been assigned tenure. DES is responsible for allocating tenure to State land based on the most appropriate use of the land to support the economic, social and physical wellbeing of the people of Queensland. Some of the unallocated State land is completely surrounded by national, conservation and marine park. It is desirable for these land parcels to be incorporated into the national park in recognition of their significant natural wetland values and to rationalise boundaries in the management area.

The State forest in the management area is currently used and managed for a range of activities. Some areas are managed with a strong emphasis on the protection of the natural and cultural values.

Converting these areas to national park, particularly areas directly adjacent to existing national park, would more accurately reflect current and proposed land uses and management.

Other areas of State forest are used for commercial purposes. There is one grazing lease of 954ha over State forest, and a second grazing lease in the adjacent State plantation forest (Appendix A, Map 2). In the longer term, it is likely that the tenure of all

QPWS-managed State forests will be assessed by the Queensland Government. Any future tenure changes will need to recognise and consider these permitted uses.

Byfield State Forest also contains five specialised management areas declared under the Forestry Act. Two of these are scientific areas (Appendix A, Map 2) declared to provide representative areas of native vegetation in the harvested area of State forest. These areas contain vegetation of conservation significance, including endangered regional ecosystems. National park tenure is considered a more appropriate tenure to reflect the biodiversity values of these areas. Converting Scientific Area 31 to national park will also help rationalise tenure in the management area.

Another specialised management area has been declared as a feature protection area (Appendix A, Map 2) to protect a scenic gully of piccabeen palms and other rainforest plants. The values of this area can be adequately protected without the special management area declaration.

The remaining two specialised management areas are State forest parks associated with recreation use at Red Rock and Upper Stony camping and day-use areas (Appendix A, Map 2). These areas currently lie in State plantation forest managed by Forestry Plantations Queensland, although QPWS has agreed to manage these areas. QPWS also manages the recreation

facilities at Water Park Creek, which is not declared as a specialised management area. It is desirable to have a consistent management basis for all three camping and day-use areas located on State forest.

The adjoining beaches (Appendix A, Map 1) are in the Great Barrier Reef Coast Marine Park (Queensland). Beach activities are regulated under the Marine Parks Act and the Rockhampton Regional Council Subordinate Local Law 17 (Parks and Reserves) 2007.

The Departmental and Official Purposes Reserve at Stockyard Point is currently managed by QPWS as trustee under the Land Act. This reserve has been managed with an emphasis on environment protection. Stockyard Point township requires land for water extraction and future community infrastructure. It is desirable for the reserve to be managed to meet the needs of the broader community, subject to conditioning of environmental and amenity issues.



Waterpark Creek, Byfield State Forest,
Photo: Matt Kayes, QPWS

Table 3 Management strategy for land tenure

Desired outcome 2020	Actions and guidelines
<p>Land with high natural, cultural and/or landscape values are gazetted as national or conservation park and incorporated into the management area.</p> <p>Land tenures in the management area are consistent with use and management intent.</p>	<p>A22. Investigate the suitability of the following parcels of unallocated State land adjacent to Corio Bay for inclusion into Byfield National Park:</p> <ul style="list-style-type: none"> · Lot 16 USL42145 · the area of Lot 7 USL42145 to the north of freehold Lot 1 CP839293 · Lots 9 to 14 PS104 · Lot 8 PS103 (Appendix A, Map 5). <p>A23. Transfer Scientific Area 31, the western section of Scientific Area 32 (Appendix A, Map 2) into the Byfield National Park.</p> <p>A24. Remove declaration of State Forest Parks 10 and 13, and Feature Protection Area 48 (Appendix A, Map 2) and continue to manage the values of these areas under the Forestry Act.</p> <p>A25. If freehold or leased land directly adjacent to the management area becomes available, consider acquiring such land for inclusion into protected area tenure.</p> <p>A26. Proceed with State plantation forest boundary changes to exclude Water Park Creek; Red Rock and Upper Stony recreation areas from Forestry Plantations Queensland managed State forest.</p> <p>A27. Continue to work with Forestry Plantations Queensland as outlined in the Memorandum of Understanding.</p> <p>A28. Ensure any estate additions to the management area reflect that this management plan is to apply.</p> <p>A29. QPWS to relinquish the trusteeship on the Departmental and Official Purposes Reserve to Rockhampton Regional Council to enable the reserve to be managed for broader community uses, subject to native title requirements being met and conditioning of environmental and amenity issues.</p>

4.1.4 Freshwater systems

The forested upper slopes of the catchments provide a high level of protection, resulting in good quality surface water.

The parabolic dune systems acts as a long-term water storage and filter system, with rainfall taking up to 100 years to reach the waterways in the management area. The resulting high-quality water and the relatively undisturbed stream environments are important refuges for native aquatic flora and fauna species and communities.

The Rockhampton Regional Council currently provides water to many Capricorn Coast residents from Water Park Creek. The catchments of these creeks largely lie in the management area. A pipeline from the Fitzroy River to the Capricorn Coast is being installed and will reduce the need for water to be harvested from Byfield catchments in the future.

The walking track from the Byfield Conservation Park campground parallels Findlays Creek to the beach. Upper Stony and Freshwater creeks are regularly used by swimmers. Managing recreation use in and around these creeks and protecting water quality will be important so that swimming in these systems can continue.

Large areas of the management area lie in the Farnborough groundwater management unit. This unit was declared as a sub-artesian district under the provisions of the *Water Act 2000* due to concern

over the aquifer system's vulnerability to saltwater intrusion. Overuse of the groundwater resources in the management area, particularly in areas close to the coastline, could affect the supplies of other users and cause salt water intrusion into the aquifer. The water quality at locations sufficiently removed from the influence of the adjacent coastline is generally suitable for most purposes. All bores in declared sub-artesian districts, other than for private domestic or stock purposes, require a licence from DES.

QPWS operates a licensed bore in the Byfield Conservation Park near the Five Rocks camping area. The water extracted from this bore is used to supply the shower and toilet facilities at the campground, and also to supply a water storage tank for fire management purposes. There are no other bores in use, although the Stockyard Point Services Cooperative has current licences and permits to extract water from a spring in the Byfield Conservation Park. This water source is subject to significant fluctuations dependent on rainfall and use, and has not been used since 2002 due to lack of water.

The residents of Stockyard Point have sought a reliable town water supply. The Reserve for Departmental and Official Purposes has been assessed by DES and there are no environmental or sustainability concerns associated with extracting water for domestic purposes to supply the Stockyard Point township.

Table 4 Management strategy for freshwater systems

Desired outcome 2020	Actions and guidelines
<p>The catchments of the management area are continuing to provide good quality surface waters.</p> <p>Park operations and recreation activities have minimal impact on the quality of surface water.</p> <p>Visitors are enjoying high quality recreation opportunities without impacting on the water quality and amenity of the freshwater systems.</p> <p>Groundwater extraction is sustainable in relation to quality and quantity and causes no adverse environmental impacts.</p>	<p>A30. Avoid works that may compromise local surface hydrology or water quality. Where works may impact on freshwater systems, ensure appropriate mitigation is used to protect water quality, particularly from sedimentation or contamination.</p> <p>A31. Promote and enforce all campsites to be at least 50m away from watercourses and lakes.</p> <p>A32. Promote sustainable, low-impact recreation practices (particularly appropriate bush toileting and waste disposal).</p> <p>A33. Conduct regular water testing to ensure quality meets standards for recreation swimming.</p> <p>A34. Advise Rockhampton Regional Council of DES's requirements for managing water extraction on the Departmental and Official Purposes Reserve including:</p> <ul style="list-style-type: none"> · Allow the bore to provide a supplementary source of domestic water to the town, with stored rainwater providing the largest percentage of water used per household. · Ensure the proposed facilities minimise impact on the visual amenity of the area.

4.2 Native plants and animals

The management area is located entirely in the Central Queensland Coast Bioregion. The diverse geology and landforms, combined with a comparatively high annual rainfall has contributed to the diversity of vegetation communities and habitats for native animals.

There have been a number of plant and animal surveys undertaken since the early 1990s. Some of these surveys were undertaken as part of environmental impact assessments and enquiries associated with proposed sand mining, and others have been completed by QPWS to provide an inventory to guide management actions. This section of the plan outlines some of the significant biodiversity values of the management area and provides guidance on the future management of these values.

4.2.1 Native plants

Thirty-six regional ecosystems have been mapped (Appendix D, Table 1), including two that are listed as *endangered* and 20 that are listed as *of concern* under the Vegetation Management Act. In these diverse ecosystems, more than 400 plant species have been identified. One of the species is listed as *endangered*, five are listed as *vulnerable* and two are listed as *rare* under the Nature Conservation (Wildlife) Regulation 2006 (Appendix D, Table 4).

Plant species of particular note are the Byfield fern *Bowenia serrulata* which is endemic to the Byfield area, *Commersonia perkinsiana* and Byfield matchstick *Comesperma oblongatum*, an endemic vulnerable shrub recorded at Stockyard Point headland. Other significant plant species are *Sowerbaea subtilis*, an endemic *vulnerable* herb recorded at Water Park Creek, *Phaius australis*, an *endangered* orchid recorded at Sandy Creek, and the Byfield grevillea *Grevillea venusta*, a *vulnerable* species endemic to the Port Curtis Pastoral District.

The management area supports good populations of some of these species. The Byfield fern (and a number of other common species) is collected under permit



Byfield grevillea, *Grevillea venusta*, Photo: Matt Kayes, QPWS

from State forest for the commercial cut-flower market and for propagation. There is very little of the endemic Byfield matchstick in the management area and little is known about its ecological requirements. There are also a number of plant species near the limit of their distribution, including the most northern distributions of swamp mahogany *Eucalyptus robusta* and small-leaved geebung *Persoonia virgata*.

Mangroves, wetlands, rainforests and beaches are significant habitats for a diverse range of species in the management area (Ponniah 1993).

There are 13 species of mangroves found in and around Corio Bay (Beach Protection Authority 1979). Corio Bay is included in the Directory of Important Wetlands in Australia. Corio Bay was registered as a Ramsar site in 1995 in recognition of its internationally significant wetland values.

The most significant threats to the regional ecosystems and plant species are invading pest plants, inappropriate fire regimes, climate change and damage caused by visitor access and recreation use.



Orange Bowl sandblow, Photo: Matt Kayes, QPWS

Table 5 Management strategy for native plants

Desired outcome 2020	Actions and guidelines
<p>The quality and extent of current vegetation communities and known populations of threatened species are maintained.</p> <p>Information on the vegetation communities and plant species of the management area continues to increase.</p> <p>The distribution and abundance of endemic species such as Byfield fern are known. Byfield matchstick exist in the management area.</p>	<p>A35. Minimise, where possible, impacts on vegetation from pest plants and animals, management actions and visitor activities.</p> <p>A36. Encourage further detailed plant surveys in the higher altitude areas of the Byfield Range and Mount Atherton.</p> <p>A37. Continue to enter plant location information, particularly plants of conservation significance, into WildNet, the QPWS's database of plants and animals.</p> <p>A38. Map the distribution and relative abundance of Byfield fern to help sustainably manage commercial harvest from State forest areas.</p> <p>A39. Monitor known populations of Byfield matchstick and <i>Commersonia perkinsiana</i> and record responses to disturbances and ecological data such as flowering and fruiting times and germination events.</p> <p>A40. Exclude vehicles from Stockyard Point headland except for the turn around area, to protect the populations of Byfield matchstick <i>Comersperma oblongatom</i> and <i>Commersonia perkinsiana</i>.</p> <p>A41. Formalise a walking track around the Stockyard Point headland to reduce visitor impacts on Byfield matchstick and <i>Commersonia perkinsiana</i>.</p> <p>A42. Through interpretive material educate visitors of the <i>endemic</i> and <i>vulnerable</i> Byfield matchstick and <i>Commersonia perkinsiana</i> at Stockyard Point headland.</p> <p>A43. Minimise disturbances to vegetation communities by management and visitor activities such as; encourage visitors to stay on designated tracks, and close and rehabilitate tracks as required.</p>

4.2.2 Native animals

The diverse vegetation communities and topography in the management area provide a broad range of habitats that support a diversity of native animals.

More than 145 bird species have been recorded in the area including 15 which are listed as *rare*, *vulnerable* or *endangered* under the Nature Conservation (Wildlife) Regulation 2006 (Appendix D, Table 2). Twenty migratory bird species are listed in the China-Australia Migratory Bird Agreement and/or Japan-Australia Migratory Bird Agreement (Appendix D, Table 3).

Sandy Point and Corio Bay are significant wading bird sites, with records of up to 15,000 birds roosting and feeding between September and March each year. Comparisons with other wetland areas in central Queensland show that Corio Bay has the highest count of red necked stints, red capped plovers, sanderlings and double banded plovers. Sandy Point has been recognised as an important nesting site for the *endangered* little tern.

Corio Bay is considered one of the most significant wetlands in the Central Queensland Coast Bioregion, as it is one of only a few wetland areas that lie in a relatively undeveloped catchment. Wetlands are important feeding, roosting and breeding sites for a number of species.

The Australian and Queensland Wader Study Groups use migratory shorebirds as indicator species for wetland health. Shorebird numbers in Corio Bay have

been sporadically counted over the years and a more specific effort is required to determine the long-term health of the system for shorebirds.

Corio Bay is a declared Fish Habitat Area (Appendix A, Map 3) in recognition of its importance as habitat for many native species of fish. Anecdotal sightings of dugong and turtles have been made, but the small amount of seagrass and large amount of area exposed at low tide means that it is not considered an important habitat for either animal.



Emu, *Dromaius novaehollandiae*,
Photo: Matt Kayes, QPWS



Black-tailed monitor, *Varanus tristis*,
Photo: John Augusteyn, QPWS

Corio Bay and adjacent mangroves provide critical habitat for a diverse range of aquatic organisms. The area is known to be important for fish, crabs and prawns, particularly banana prawn *Penaeus merguinesis* (Ponniah 1993).

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

Sea materials washed-up onto the beaches provide food for birds and invertebrates. The rocky headlands and islands in Corio Bay support organisms such as algae that can tolerate fluctuations in water levels from tidal movement (Campbell 1989). They also provide roosting areas for shorebirds.

Threats to marine species can be from litter (digestion and entanglement), bait collection, pollution (oil spills) and trampling (Ponniah 1993). Impacts from trampling on these values are to be managed.

Marine species characteristics of open waters of the management area include those that are pelagic (actively swimming) and planktonic (drifting in current). Planktonic species rely on currents for movement, nutrients and food. Some inter-tidal organisms spend early stages of their life in this environment (Parks Victoria 2006). Pelagic fish may migrate in the coastal waters and Corio Bay. Over 1400ha of suitable habitat has been mapped in Corio Bay (J McCabe, pers. com.).

Whales are known to traverse the waters during migration and can be seen from the headlands in the management area. Other marine mammals in the area include dugong, dolphins and turtles.

Rainforests including vine scrubs in the management area are critical for the fruit pigeons, and other birds, as permanent habitat and providing protection for migratory species.

The rocky headland beaches near the entrance to Corio Bay supports low numbers of flatback turtles, *Natator depressa* during breeding season (Ponniah 1993).

Twenty-six species of reptile have been recorded from the area, of which, the estuarine crocodile, *Crocodylus porosus* is listed as *vulnerable* and the death adder, *Acanthophs antarcticus* is listed as *rare*.

More than 70 mammals have been recorded. The northern quoll, *Dasyurus hallucatus*, last recorded in the area in 1997, is listed as *endangered* under the Commonwealth Environment Protection and Biodiversity Conservation Act. Brush-tailed phascogales, *Phascogale tapoatafa* are known to inhabit the areas around Red Rock camping area and are often spotted at night foraging for food. The rocky ridges of the coastal ranges provide protection and homes for up to 25 bat species. The *vulnerable* ghost bat *Macroderma gigas* has been recorded in the area. A false water-rat *Xeromys myoides* was sighted in the Shoalwater Bay region and it is likely that this *vulnerable* species also inhabits the mangrove habitats of Corio Bay and Dismal Swamp.

Dingoes are known to occupy the lands in the management area and have been reported to come close to camp sites. Feeding of dingoes is discouraged to reduce reliance on humans for food and to ensure that both visitors and dingoes remain safe.

Threats to native animals include inadequate foraging, breeding and roosting sites, competition for resources from introduced animals, disturbance to soil and vegetation, human recreation activities and inappropriate fire regimes and practices.

Fauna conservation cannot be considered in isolation from adjacent areas. Wildlife corridors linking the area to other government-managed lands and private property are important. Fragmentation of forest blocks in the broader landscape by roads, plantations and cleared private property may also restrict the movements of fauna between local populations, increasing the risk of their local decline or extinction.



Baby Water Dragon, Stony Creek, Byfield State Forest,
Photo: Matt Kayes, QPWS

Table 6 Management strategy for native animals

Desired outcome 2020	Actions and guidelines
<p>Detailed information about the habitat and distribution of animals are available to guide management decisions.</p> <p>Species of conservation concern remain at viable population levels.</p> <p>Fire, pest plants and animals, and visitor management practices are conducive to protect the area's native animals.</p> <p>Knowledge on the marine ecological communities aid management, protection and potential impacts.</p> <p>Fires are being managed to meet the ecological requirements of fire-dependant fauna species.</p>	<p>A44. Encourage visitors to report interesting sightings and continue to enter animal location information into WildNet.</p> <p>A45. Support the Queensland Wader Study Group and other groups to survey shorebirds and incorporate findings of bird surveys at Corio Bay into the Coastal Bird Atlas.</p> <p>A46. Monitor the distribution, abundance and habitat condition of <i>rare, threatened</i> and other animal species of conservation significance. Results from monitoring will be analysed and used to inform management decisions.</p> <p>A47. Monitor known populations of the death adder and record responses to disturbances and ecological data such as breeding and natural migration patterns.</p> <p>A48. Ensure that management practices and visitor use have minimal impact on <i>rare, threatened</i> and other animal species of conservation significance.</p> <p>A49. Inform visitors of the marine values and visitor impacts such as littering and trampling through interpretive materials.</p> <p>A50. Maintain the abundance and diversity of native animals through active habitat management including pest control and fire management.</p>

4.3 Indigenous culture

The Darumbal people are the registered Native Title claimants for the management area. Their traditional use of the management area is part of a much larger cultural system, with various clans spanning a land area from north of Curtis Island to St Lawrence and west past Gracemere. Darumbal people have a complex and diverse social and spiritual culture.

The Darumbal people have reclaimed their interest in the management area, which is not limited to protecting and managing archaeological sites.

Various archaeological surveys were completed in the 1980s and '90s. These surveys located a series of shell middens along the management area's frontal dune systems and headlands. Stone tool artefacts were also found. It is likely that further sites are yet to be discovered.

Protection of Aboriginal cultural heritage places is important for the Darumbal people to understand and connect with past history. Likewise, there are many landforms and features important to the Darumbal people because of their spiritual significance. The Darumbal people have a strong sense of ownership of information about the Indigenous cultural values of the area. This plan respects this ownership. At the same time, the Darumbal people are willing to share and teach visitors about their history through interpretation.

Indigenous cultural heritage may require active management to ensure their protection from erosion, recreation activities and removal. It is important for QPWS to work with Traditional Owners to ensure appropriate measures are taken to protect known areas.



Heathland, Photo: John Augusteyn, QPWS

Table 7 Management strategy for Indigenous culture

Desired outcome 2020	Actions and guidelines
<p>Indigenous cultural heritage places are protected from visitor and management activities.</p> <p>The Darumbal people have involvement in managing the area.</p> <p>Traditional Owner connections to the management area are reflected through interpretive material.</p>	<p>A51. Continue to encourage Traditional Owner involvement in the area's planning and management.</p> <p>A52. Continue to build strong relationships with the Darumbal people to ensure that communication gaps don't adversely impact on protecting cultural heritage values. This includes working closely with the Darumbal people to identify and manage important cultural heritage places and landscapes.</p> <p>A53. Identify opportunities to incorporate Indigenous values into interpretive materials.</p> <p>A54. Investigate opportunities to give visitor sites, roads and locations suitable Indigenous names.</p> <p>A55. Promote public understanding and respect for Indigenous culture by incorporating information about Indigenous traditions, places and objects in interpretation and education programs.</p> <p>A56. Establish protocols and agreements with the Darumbal people to address managing cultural heritage issues on Darumbal land through a cultural heritage plan including identification, site, risks, lore requirements and management directions to reduce potential or known impacts.</p> <p>A57. Assess annual works programs in line with legislation and policies to minimise the potential for impacts from management activities on Indigenous cultural values, in consultation with Traditional Owners.</p> <p>A58. Support Traditional Owners to develop and lead cultural awareness for all persons living and working in the management area.</p>

4.4 Shared-history culture

The broader Rockhampton area was sparsely populated before the discovery of gold in 1858. The population influx associated with gold prospecting marked the beginning of settlement of the Byfield area.

Cattle grazing and timber harvesting were the two primary land uses following settlement. The remnants of this historic use include cattle yard remains at King Springs and Stockyard Point. Today, there remains one grazing lease over State forest (Appendix A, Map 2), and a second in the adjacent State plantation forest managed by Forestry Plantations Queensland.

In 1944, the Byfield coal syndicate obtained a prospecting licence and began an open cut coal mining operation on the eastern bank of Water Park Creek. Coal was extracted, but was of poor quality and mining did not continue. Then, in the 1960s, mineral leases and rights to mine rutile, zircon and monazite were granted over about 240ha of beach and sand dunes.

Exploratory extraction was undertaken, but these ventures were halted following a significant public effort to protect the area for its natural values – a significant milestone in creating what is now considered one of the largest, protected coastal environments in Queensland. No sand mining interests are current today, but there is a current environmental authority for coal exploration in Byfield State Forest.

During the 1970s, the Queensland Government allowed a small land development at Stockyard Point. Findlays Creek is named after a family who had a hut in the area for many years prior to the establishment of the town. Descendents of the family still own property at Stockyard Point.

The Stockyard Point Residents Association approached QPWS and requested that one of the small creeks on the northern side of Corio Bay be named after one of the first residents of Stockyard Point, William Geedrick (Willie), in recognition of his contribution to the township of Stockyard Point.

One of the first land owners at Stockyard Point was Col Ryan. The Stockyard Point residents have placed a memorial plaque for Col's son, Michael, on land which is now part of the Byfield Conservation Park. A second memorial plaque on the conservation park commemorates Bruce Chappell, who was a regular visitor to, and ambassador for the area.

Table 8 Management strategy for shared-history culture

Desired outcome 2020	Actions and guidelines
Visitors to the Byfield area appreciate the community effort to protect the values of the area.	A59. Provide information about historical land use and past community actions to protect the Byfield area in interpretation materials.
Place names are formally registered.	A60. Ensure Willies Creek, Findlays Creek and Freshwater Creek are registered on the State Place Names Database.
No further memorials are located in the management area.	A61. Prohibit further memorial plaques or structures to be placed or erected in the management area.
	A62. Continue to document places of historic significance in the management area.

4.5 Visitor opportunities

The Byfield area is an increasingly popular recreation destination in central Queensland, largely due to increases in the regional population, improvements in four-wheel drive vehicles and better access from Yeppoon and Rockhampton.

4.5.1 Recreation management

Byfield's key conservation significance is due to its large size and its relatively undisturbed state, its diverse assemblage of different habitats, and its proximity to Shoalwater Bay (Ponniah 1993). This area contains spectacular scenery, a variety of mountains, rainforests, streams, swamplands, high dunes and beaches, with very diverse flora of scientific interest.

The management area offers diverse recreation opportunities in varied locations ranging from developed sites for specific activities, to the solitary natural experience of remote beaches, forests and waters. Recreation opportunities available to visitors include recreation driving, camping, bushwalking, picnicking, whale watching, dog walking, horse riding, diving, snorkelling, surfing, swimming and nature appreciation.

A terrestrial management zone and marine setting system has been prepared to guide management directions and priorities, acceptable levels of use and development throughout the management area (Appendix A, Map 8 and Appendix C). Four management zones have been identified: Zone 1 (Remote Natural), Zone 2 (Natural), Zone 3 (Recreation) and Zone 4 (Developed) (Appendix A, Map 8 and Appendix C). Two marine settings have also been identified: Setting 4 (Natural) and Setting 5 (Protected).

The management area is yet to be assessed for visitor capacity at key destinations such as campgrounds, day-use areas and walking tracks, particularly in the State forest. This assessment will provide information



Fishing in the Byfield area, Photo: John Augusteyn, QPWS

on visitor use and establish site capacity to improve management decisions over the long term.

The management zone system, based on landscape classification settings, will be used to manage acceptable levels of use and development for each visitor site. This will be further complimented with a visitor management strategy providing management direction on key visitor site capacity and development.

Placing new infrastructure in the management area could impact on the amenity of the area and its values. Clearing for infrastructure and access fragments habitat and creates potential paths for pest animals, pest plant dispersal and arson wildfires.

State forest day-use and camping areas are heavily used by both day-users and campers. Issues associated with these areas are overcrowding, car parking at peak times and facilities unable to cope with high use and vandalism.

Table 9 Management strategy for recreation management

Desired outcome 2020	Actions and guidelines
<p>Byfield management area is promoted as a valued natural area where visitors can enjoy nature-based recreation opportunities.</p> <p>Recreation activities are managed to encourage visitor enjoyment and understanding while minimising impacts on the management area.</p> <p>Development, maintenance and replacement of assets are done effectively and as required to meet the needs of the management area.</p> <p>Assets are energy-efficient.</p>	<p>A63. Manage the management area in accordance to the terrestrial zones and marine setting system as detailed in Appendix A, Map 8 and Appendix C, Table 1 and Table 2.</p> <p>A64. Continue to provide recreation opportunities as outlined in Appendix D, Table 5.</p> <p>A65. Manage visitor areas in accordance with the level of facilities identified in Appendix D, Table 6.</p> <p>A66. Plan and manage recreation activities to minimise environmental damage and conflict between participants in different activities.</p> <p>A67. Monitor recreation, setting conditions and adjusting management to maintain the desired standards.</p> <p>A68. Liaise with State and regional tourism authorities to promote the values and recreation opportunities through local publications and media releases.</p> <p>A69. Prepare a visitor management strategy to review specifically Upper Stony, Water Park Creek and Red Rock visitor sites in relation to design and capacity for recreation use.</p>

4.5.2 Information and interpretation

Information and interpretation services can help visitors orientate themselves and to more easily gain an appreciation and understanding of the area's natural and cultural values, recreation opportunities and management. Such services can also encourage and help visitors to have a safe visit without damaging the area.

QPWS provides information, interpretation and education to visitors through the DES website, ranger patrols, visitor guides, signs, displays and through commercial operators.

The management area provides an opportunity to interpret the diverse landscapes of rugged mountains, coastal dunes and marine ecosystems and the importance of these systems to the overall natural environment cycle and recreation opportunities.

Pre-visit information allows potential visitors to the area to fully understand the opportunities available, and to plan and develop realistic expectations for their visit. Pre-visit information is provided through the DES website and main office, Rockhampton office, and the Yeppoon and Rockhampton tourist information centres. Camping permits can also be obtained from these locations.

Orientation signs are important to guide visitors to find their way to, and along, the many access routes. Providing orientation information to visitors is complicated because most visitors do not access pre-visit information. Hence, there is a need to provide adequate signs and distribute relevant information through a variety of channels. It is also desirable to provide Byfield Area orientation signs along the Byfield Road at, or before, the turn off to Upper Stony day-use area and campground.



View from Mount Ganter, Byfield State Forest,
Photo: Matt Kayes, QPWS

Table 10 Management strategy for information and interpretation

Desired outcome 2020	Actions and guidelines
<p>Natural areas where visitors can enjoy nature-based recreation activities are promoted.</p> <p>Information delivered about the management area are coordinated and consistent.</p> <p>Information to visitors to prepare for their visit is accurate, up to date and readily accessible.</p> <p>Pro-active, positive public contact is assisting to increase the visitors' knowledge and understanding of the management area.</p>	<p>A70. Liaise with State and regional tourism authorities to promote the values and recreation opportunities through local publications and media releases.</p> <p>A71. Work with Rockhampton Regional Council, tourism organisations and local businesses to ensure visitors can access accurate information about visiting the management area.</p> <p>A72. Host "familiarisation" visits for regional tourism stakeholders and potential commercial operators.</p> <p>A73. Ensure pre-visit information includes:</p> <ul style="list-style-type: none"> · an overview of the area's values, recreation opportunities and sites of particular interest · the need to pre-book camping sites · information on self-sufficient visitation, particularly in respect to drinking water, portable gas cooking stoves, fire wood and fire containers. <p>A74. Increase the availability of pre-visit information through partnerships with local businesses, tourism organisations, community networks and media promotion.</p> <p>A75. Inform potential visitors of any changes to access in the Byfield area caused by management activities or natural hazards.</p> <p>A76. Actively work with Rockhampton Regional Council to increase the number of outlets where camping permits can be obtained.</p> <p>A77. Develop and implement an on-site interpretive strategy that includes current and future sites, walking opportunities and potential for new interpretation.</p> <p>A78. Identify, design and implement a central location for visitor information in the Water Park Creek area.</p> <p>A79. Provide safety measures to visitors including:</p> <ul style="list-style-type: none"> · potential presence of crocodiles, bullrouts and marine stingers · shallow waters or reduction in water quality in freshwater systems · closure of areas, roads or tracks due to safety concerns. <p>A80. Continue to provide information to visitors through the DES website, visitor guide, ranger patrols, activities, information boards and signs.</p> <p>A81. Inform visitors about the impacts of recreation activities on the management area and its values.</p> <p>A82. Promote public understanding and respect for Indigenous culture by incorporating information about Indigenous traditions, places and objects in interpretation and education programs.</p> <p>A83. Provide additional on-site information to assist visitors orientation including:</p> <ul style="list-style-type: none"> · an orientation sign by the Byfield Road to direct visitors to their desired destination · improved direction signs throughout the public track network · ensure the public road network is differentiated from the management track network. <p>A84. Review site, tracks and location names and seek consensus on names where discrepancies exists.</p> <p>A85. Increase QPWS involvement in local events and in talking to groups such as schools, four-wheel drive clubs, trail bike riders, surf-riders and other important park visitor groups to raise awareness of the management area and increase ranger presence in the community.</p> <p>A86. Develop and implement a community partnerships plan to identify ways to eliminate inappropriate and damaging visitor behaviours.</p>

4.5.3 Recreation driving and access

The management area covers about 22,000ha. Access through the management area and to major destinations is provided through a network of gazetted roads and designated tracks of varying standards (Appendix A, Map 6).

Many of the roads and tracks are used by park visitors, rangers, local residents and other land management agencies in the broader Byfield area. Hence, QPWS is not solely responsible for road maintenance. Management arrangements with Forestry Plantations Queensland, Rockhampton Regional Council and Iwasaki Sangyo apply to many tracks and roads. Continuing negotiation and cooperation is required to ensure the road network is maintained at a standard desired by all agencies.

One of the major challenges facing QPWS is confining vehicle use to designated tracks. Some park visitors illegally create new tracks and widen existing tracks, particularly when avoiding degraded sections of track, overtaking slow or bogged vehicles, or seeking to access new areas. These new tracks impact on the biodiversity and scenic amenity of the area and require significant resources to restore landform and vegetation.

Vehicle use on beaches is managed by Rockhampton Regional Council through a local law. The existing local law provides for vehicle use on Nine Mile Beach and

Farnborough Beach between the high astronomical tide and the low astronomical tide. Access to the beaches is only provided at Bangalee, Sandy Point (Byfield National Park), Nine Mile Beach access track and southern access track (Byfield National Park). Under the local law, vehicle use is neither legal nor allowed along Five Rocks Beach (Three Rivers Beach) or along the northern beaches of Corio Bay, although a smaller, but increasing, number of vehicles do use these beaches.

Rockhampton Regional Council in 2009 removed the requirement to obtain a vehicle permit for Farnborough and Nine Mile beaches. There is a need to review the effectiveness of vehicle management along all beaches in the management area and develop a more strategic approach to vehicle management on all beaches in the Byfield area.

Most visitors appreciate the nature-based recreation opportunities provided in the management area. However, others illegally access the dune and beach areas to test their vehicle capabilities and off-road driving skills. Some of these visitors have little or no respect for the natural environment and cause significant damage to dune vegetation when driving off designated tracks. There are serious safety issues associated with this behaviour, evident by the many accidents reported from the area.



Nine Mile Beach dune vehicles damage,
Photo: Tony Frisby, QPWS

Increasing local population, improvement in four-wheel drive vehicle capabilities, better access from Yeppoon and Rockhampton to, and through, the management area, and an increase in anti-social and damaging behaviour – these factors combined, increase the need to improve vehicle management to better protect natural, cultural and social values. Rangers are increasingly spending significant amounts of time on vehicle access and compliance issues, but have been unable to curb dangerous and damaging behaviours.

The intent of this management plan is to maintain a diversity of nature-based visitor opportunities by:

- continuing to provide two-wheel drive access to camping, day-use and walking tracks at Water Park Creek, Upper Stony and Red Rock
- maintaining four-wheel drive access to, and in, the national park, conservation park and along some of the beaches
- developing and managing a track and road system that provides access to key destination points
- providing vehicle use along some beaches, but retaining others as vehicle-free beaches
- encouraging people to get out of vehicles by presenting and promoting walking opportunities including a mixture of short, medium and long walks
- prohibiting vehicle use at sites where driving is posing a safety risk and is impacting on the natural, cultural, and scenic landscape values of the area and where other management techniques cannot minimise the impacts
- minimising conflict between different visitor groups (for example, bushwalkers and four-wheel drive enthusiasts).

Legal access to Stockyard Point

The current legal access to Stockyard Point is via the sea and a gazetted road leading from Nine Mile Beach to the township. There is no gazetted road from the west that accesses the township. The current gazetted road from Nine Mile Beach has not been constructed as it crosses a cliff and access is not practical. Residents currently use the national park to access Nine Mile Beach, but desire a legal access. The main reasons residents want the legal access is to transport their dogs to the beach and to access the beach with their conditionally registered quad bikes. Dogs and conditionally registered vehicles are not permitted in national parks.

In partnership with Rockhampton Regional Council, the current national park road that runs from the township to Nine Mile Beach will be gazetted as a road, and the current gazetted road alignment transferred to the national park tenure (Appendix A, Map 7).

Sandy Point and Farnborough Beach

Sandy Point is a sand spit at the southern side of Corio Bay. The point is accessed along Farnborough Beach or an inland track through land owned by the Iwasaki Sangyo . Sandy Point provides the closest access to Corio Bay from Yeppoon. It is used primarily for boat launching or beach-based fishing.

The *Queensland International Tourist Centre Agreement Act Repeal Act 1989* grants access through Iwasaki Sangyo property to the Sandy Point section of Byfield National Park to government employees. Iwasaki Sangyo has indicated that it will be reducing the standard of track to four-wheel drive access.

Visitors with boat trailers traverse Farnborough Beach to access Fishing Creek to launch their boats as the Iwasaki Sangyo access is corrugated and unsuitable for boat trailers. Rockhampton Regional Council's local law provides for vehicle access along Farnborough Beach to Fishing Creek. This is the preferred option for visitors with boat trailers.

It is not likely during the life of this management plan that Sandy Point will return to how it was in 2006 when a large sandy spit extended north across the mouth of Corio Bay. The uncertainty of how the sand will move and how the shorebirds will react requires an adaptive management approach. This may include the need to restrict vehicle access around the northern tip to Corio Bay or Fishing Creek. The boat launching will remain, with an understanding that this opportunity maybe restricted due to the constant movement of sand.

Sandy Point is an important feeding and roosting area for shorebirds and is a large part of the reason Corio Bay was Ramsar listed. Of particular note is the presence of a roosting site for little terns on the northern tip of the point. However, high tides and rain events have seen the top end of the spit disappear. An island is now forming off the point and little terns are beginning to roost here.

Vehicles must be managed to protect the little tern roosting site and to allow natural coastal processes to occur.

Vehicles will be permitted to traverse the beach at Sandy Point. QPWS will, however, implement adaptive management actions as required to manage Sandy Point vehicle access at times where the coastal dunes and bird movements need protecting. The existing boat launching at Fishing Creek will remain.

Northern Corio Bay

Willies Creek is a small creek located on the northern side of Corio Bay (Appendix A, Map 4). Some residents and visitors occasionally use the creek for crabbing and bait gathering. Willies Creek is accessed by driving along the northern Corio Bay beach.

There are currently two vehicle access tracks between Nine Mile Beach and the northern beaches of Corio Bay.

The most southerly track starts at the southern end of Nine Mile Beach and ends at the Corio Bay car park on the northern side of Corio Bay peninsula. This track is the preferred access for most park users. However, at high tides it is not possible to drive along the Nine Mile Beach or northern Corio Beach to access Willies Creek. Under these tidal conditions, a northern high-tide access track (Greenslopes track) has been used.

This northern track passes over the dune to meet the Corio Bay beach closer to Willies Creek, bypassing the tide-inundated section of beach in Corio Bay. The dune system where this track crosses is highly mobile and is difficult to maintain and manage. The track also passes through dunes of cultural significance to the Traditional Owners of the area.

Vehicle use along the beaches in Corio Bay is not a legal activity under the local government local law or Marine Parks Act. In addition, the beaches are made up of soft sand in which vehicles can easily become bogged. To avoid this, vehicles have begun making tracks through the higher parts of the dune to avoid the mangrove areas and areas of soft sand. This access is not consistent with the high conservation values of the Corio Bay wetland.

QPWS, under the Marine Parks Act, can regulate vehicle use along beaches. Vehicle access will continue to be permitted to the northern Corio Bay, but only for the purposes of launching a boat. No further vehicle access along northern Corio Bay will be permitted. The natural boat launching area will be designated outside the mangrove community. The high tide access (Greenslopes track) to Willies Creek is to be closed.

Five Rocks Beach

Five Rocks Beach, also known locally as Three Rivers Beach, is a 4.5km stretch of beach at the northern end of the management area. The southern half of the beach is adjacent to Byfield National Park and the northern half of the beach is adjacent to the Shoalwater Bay Training Area (Appendix A, Map 1). The existing local government local law and Marine Parks Act do not provide for vehicle access on Five Rocks Beach and any current vehicle use is illegal.

Vehicle access to the beach is via a track through the national park. The track is not maintained by the QPWS. The standard of the track is poor and good four-wheel drive skills are required to successfully negotiate the track. This provides a welcome challenge for some park users but represents a significant safety risk.

People use and access the beach for a variety of reasons. The beach is a popular surfing location and some beach-based fishing occurs. Other activities include picnicking and general beach activities in an area with fewer people than Nine Mile Beach. There are three licensed beach worm collectors in the local area.

Adverse environmental impacts are evident along the dune system of Five Rocks Beach. Multiple dune crossings, numerous self-made tracks and deep scarring of the dunes are obvious from on-ground inspections and aerial photography.



Sand track, Photo: Adam Gietzelt, QPWS

The Department of Defence is concerned about continued vehicle access to and along Five Rocks Beach, as this provides an easy access into the Shoalwater Bay Training Area. Despite being closed to public access, visitors illegally use the dunes and tracks in the training area for camping and four-wheel driving activities. These activities are causing obvious environmental degradation. The Department of Defence actively pursues offenders.

The Commission of Inquiry into the Shoalwater Bay Training Area (1994) recommended that vehicle access not be permitted along Five Rocks Beach.

If the Rockhampton Regional Council local law 17 does not provide for vehicle access south of the access track, QPWS, under the Marine Parks Act, can regulate vehicle use along beaches. The provisions for a mix of pedestrian and restricted access to Five Rocks Beach will be provided. Vehicles will be permitted to access only the southern section of Five Rocks Beach. Pedestrian access will continue to be permitted along Five Rocks Beach.

This approach provides for vehicles and pedestrians to be separated and enhance the current track system, provides all-tide access, potentially reduces trespass and vehicle intrusion into the Department of Defence land and potentially reduces continuing environmental impacts on the coastal dunes.

Orange Bowl

The Orange Bowl is a large sandblow accessed off Nine Mile Beach. The high points of the dune provide good views of the coastline. Vehicle driving in the Orange Bowl is a well-established local practice dating from before the area was included in Byfield National Park. This use is damaging the dune vegetation and

structure, and is a serious safety concern for QPWS. Over the past few years, there have been many vehicle incidents at the Orange Bowl, some involving serious injury to the vehicle occupants.

In late 2007, QPWS began an alternative access management program at the Orange Bowl. Vehicle access is now limited to the “floor” of the bowl and along a mapped trail to a nominated lookout point. This was intended to keep all traffic to a single “track” to protect the dune vegetation, but still allow vehicle access to a lookout at the top of the dune.

With the help of local police, night time and weekend patrols were increased to educate users and enforce the new management program. While illegal activities are reduced when rangers and police are present, the dangerous behaviours still occur as soon as the compliance presence drops. If dangerous and damaging driver behaviour continues, it is almost certain there will be further accidents and injuries with a real possibility of a fatality.

QPWS will close Orange Bowl to vehicles due to the environmental concerns and serious safety risks to QPWS staff and site visitors. Pedestrian access will remain.

Vehicle use of non-public access roads

There are three freehold properties adjacent to Water Park Creek on the western side of the national park. The legal access to these blocks is via Water Park Creek (that is, by water). The land-based access, although not a legal access, is via restricted access management tracks. Written authorities are provided to the land owners to allow some limited access through the national park on these tracks.

Table 11 Management strategy for recreation driving and access

Desired outcome 2020	Actions and guidelines
<p>The road network provides a diversity of two and four-wheel drive access.</p> <p>Public vehicle use is contained to the formal public road and track network.</p> <p>A diversity of beach settings are provided, with vehicles permitted to drive on some beaches while other beaches remain vehicle-free.</p>	<p>A87. Clearly identify the public road network as distinct from the management road network (Appendix A, Map 6).</p> <p>A88. Close and rehabilitate tracks that are not identified as part of the public or management track network.</p> <p>A89. Realign roads where damage to the road surface is continually causing drivers to create new tracks to avoid the damaged section. Where this is not practical, consider alternative management options to remedy the issue (such as introducing alternative road surfacing material) while not increasing the road or track standard as detailed on Appendix A, Map 6.</p> <p>A90. Maintain road width to a minimum to reduce scarring of the landscape.</p>

Desired outcome 2020	Actions and guidelines
<p>Shared maintenance of roads providing access to and in the management area are equitable and maintains the roads to an appropriate standard.</p> <p>Legal accesses are provided from Nine Mile Beach to Stockyard Point township.</p> <p>Property owners and lessees have a practical vehicle access to their land.</p> <p>Significant natural and cultural resources are protected from vehicle impacts.</p> <p>Vegetation colonisation and expansion on natural sand blows are not adversely impacted by inappropriate access and vehicle use.</p> <p>Visitors are safe and not compromised by dangerous driving.</p> <p>Visitors are able to easily find their way in the management area.</p>	<p>A91. Prohibit vehicle use on the northern beaches of Corio Bay, except when accessing the northern Corio Bay boat launching area.</p> <p>A92. Provide opportunities along Stockyard Point track for visitors to stop and park to pump up tyres and appreciate scenic views and complete short walks to key natural and cultural places of interest.</p> <p>A93. Provide for vehicle use on the northern beach of Corio Bay to allow access to the informal boat launching site.</p> <p>A94. Provide for vehicle access to Five Rocks Beach south of the vehicle access track through the Marine Parks Act.</p> <p>A95. Close the high tide access track to Willies Creek.</p> <p>A96. Close Orange Bowl sand blow to vehicle access but allow and promote pedestrian access.</p> <p>A97. Provide vehicle access to boat launching at Corio Bay car park and Fishing Creek.</p> <p>A98. Enforce appropriate vehicle use including the requirement for motor vehicles to use only the public road network and follow all road rules.</p> <p>A99. Increase visitor awareness of speed limits on tracks and beaches.</p> <p>A100. Continue to work with Queensland Police and Rockhampton Regional Council to enforce safe and legal vehicle use.</p> <p>A101. Close tracks and areas where hazards may impact on visitor safety until the threat has been reduced to an acceptable level.</p> <p>A102. Continue to negotiate and develop agreements for road maintenance with adjoining land managers.</p> <p>A103. Support any request from Rockhampton Regional Council to gazette the national park road between Stockyard Point township and Nine Mile Beach subject to the current gazetted road alignment being incorporated into Byfield National Park, and Native Title requirements and processes of road closure under the Land Act are being met.</p> <p>A104. Continue to provide authorities with significant restrictions for owners of freehold land on the western side of the national park to access their properties via restricted access roads.</p> <p>A105. Inform visitors about the impacts of recreation activities on the management area and its values.</p> <p>A106. Take adaptive measures to protect the roosting birds in Corio Bay, including closing the area to vehicle access when conditions warrant.</p> <p>A107. Monitor the changing conditions to ensure vehicles are not causing erosion or impacting on roosting and or nesting shorebirds and seabirds.</p> <p>A108. Monitor vehicle and boat launching activities. If activities are having an environmental impact such as vegetation destruction or impacts on native animals, adaptive management actions are to be undertaken.</p> <p>A109. In collaboration with local government, police, industry and local community, lead activities aimed at curtailing illegal off-road driving.</p> <p>A110. Inform potential visitors of any changes to access in the Byfield area caused by management activities or natural hazards.</p> <p>A111. Develop and implement with police, Rockhampton Regional Council and community groups an initiative to identify ways to eliminate inappropriate and damaging visitor behaviours.</p> <p>A112. Provide additional on-site information to assist visitor orientation including an orientation sign for Byfield Road to direct visitors to their desired location (possibly at the junction with Upper Stony Road) and improved directional signs throughout the public road network.</p> <p>A113. Ensure the public road network is sufficiently signed and differentiated from the management road network.</p> <p>A114. Display regulatory notices which are required to formalise access and activities as outlined in this management plan.</p>

4.5.4 Camping

The management area offers a wide range of nature-based recreation opportunities and settings. A large part of the area is accessible only to four-wheel drives, which increases the remoteness and degree of self-reliance. Many people access the area for a remote experience and beach camping adventure. Other camping areas have visitor facilities and can be accessed by two-wheel drive vehicles. The diversity of camping opportunities provides for users with differing expectations and needs.

There are six designated camping areas located at Upper Stony, Red Rock, Five Rocks, Water Park Creek, Scouts Camp and Nine Mile Beach (Appendix A, Map 9). Appendix D, Table 6 outlines the landscape setting class and facilities to be provided at each site.

Camping along Nine Mile Beach is provided at several camping nodes. Recently, the sites have undergone extensive improvements to manage the impacts from visitors to the natural and cultural values. Upper Stony and Nine Mile Beach campsites are particularly popular and are typically booked well in advance over peak times (school holidays and long weekends). To allow opportunities for more people to access these popular campsites, the length of stay will be for a maximum of seven (7) nights at all sites all year round.

Red Rock is unique as it is the only camping area where dogs are permitted. Water Park Creek is accessible to two-wheel drive vehicles and is centrally located in the management area. Visitor use is generally low at both Red Rock and Water Park Creek, and promoting these camping areas as alternatives to Upper Stony is required as camping numbers continue to grow.

Because of the high visitor use to some of the camping areas, it is important that visitors book campsites prior to arriving at Byfield. There are several ways camping permits can be obtained. There is an online booking system in place (via www.des.qld.gov.au or phoning 131304). Permits can also be obtained from some QPWS offices, Byfield Store or local visitor centre outlets. The requirement to book camping sites in advance needs to be communicated to potential visitors. Visitors also need to be aware that no drinking water is provided, and it is essential that visitors bring their own.

Camping in large groups is not considered appropriate at Upper Stony and along Nine Mile Beach due to the limited camping available and significant popularity for independent travellers. Group camping is supported at Water Park Creek and Red Rock where visitor numbers are low and facilities are provided. It is also desirable to implement changes to the layout of Five Rocks camping area to provide opportunities for group activity camping close to the coast.



Camping in State forest, Photo: John Augusteyn, QPWS

Campfires are a traditional part of the camping experience for most visitors to Byfield. Fireplaces are provided at Red Rock and Upper Stony camping areas, and it is intended to reinstate some fireplaces at Water Park Creek. Campfires at these locations must be in the provided fireplaces. Campfires are currently allowed at campsites on Nine Mile Beach provided that they are in an enclosed container and raised off the ground to minimise scarring of the ground and reduce the risk of wildfire. Visitors are required to bring their own container and clean, milled timber if they choose to have a campfire and take the container, fire waste and remaining clean, milled timber home.

Campfires are not allowed at Five Rocks or Scouts Camp camping areas due to the significant risk of bushfire in sensitive vegetation communities. Wood fires and firewood collection can have significant environmental impacts. Firewood collection is unlawful in both the national park and conservation park, and in State forest unless authorised by permit. Visitors must bring their own clean, milled timber for campfires at all sites where campfires are allowed. Campfires will be monitored and if campfires continue to be unsustainable and impact on the natural and cultural values of the area, campfires will be removed.

In the past, the inappropriate disposal of toilet waste has caused impacts to the amenity, vegetation and water quality of the area. Providing infrastructure in erosion prone areas is inappropriate and unsustainable due to the fragile and dynamic dune system. Toilet facilities are provided at some camping sites (Appendix D, Table 6), at other sites, visitors are encouraged to bring portable toilets or bury toilet waste at least 50m from any water bodies. No rubbish collection facilities are provided. To protect the area, it is essential for visitors to take all rubbish home.

Table 12 Management strategy for camping

Desired outcome 2020	Actions and guidelines
<p>A diversity of camping opportunities are provided which cater for different user groups.</p> <p>Campfires continue to contribute to positive camping experiences and do not cause adverse impacts on natural values.</p> <p>Natural values are not compromised by recreation camping activities.</p> <p>Camping areas are pre-booked to ensure over-allocation does not occur at popular sites.</p>	<p>A115. Maintain the six designated camping areas at Upper Stony, Water Park Creek, Red Rock, Five Rocks, Nine Mile and Scouts Camp to the landscape classification settings identified in Appendix D, Table 6, unless similar facilities are established by commercial operators in the Byfield township. If alternative camping opportunities are established, review capacity for the management area.</p> <p>A116. Maintain the current camp sites at Nine Mile Beach.</p> <p>A117. Provide facilities at designated camping areas as detailed in Appendix D, Table 6.</p> <p>A118. Actively promote the camping opportunities at Red Rock and Water Park Creek as alternatives to Upper Stony camping area, and Five Rocks camping area as an alternative to remote camping along Nine Mile Beach.</p> <p>A119. Restrict the length of camping stay throughout the year to a maximum of seven nights at all camp sites.</p> <p>A120. Support group and commercial operator camping at Red Rock, Water Park Creek and Five Rocks camping areas where the proposed activities are consistent with the management intent for the area.</p> <p>A121. Implement the Five Rocks camping area site plan to provide sites suitable for group and commercial operator camping.</p> <p>A122. Restrict group camping at Upper Stony and Nine Mile Beach to a maximum of 15 people (outside public holidays and school holidays) only and do not allow the use of these sites by commercial operators.</p> <p>A123. Permit campfires in enclosed containers raised off the ground at designated camping nodes along Nine Mile Beach.</p> <p>A124. Prohibit campfires at Five Rocks and Scouts Camp camping areas, and all other areas outside of designated camping sites.</p> <p>A125. Review the provision of campfires if environmental impacts from current or inappropriate campfire practices become difficult to manage. Where necessary, prohibit campfires.</p> <p>A126. Ensure pre-visit information is readily available so visitors know what to expect from their camping experience.</p> <p>A127. Monitor campsites in designated camping areas to ensure that activities do not detract from the setting of the area.</p> <p>A128. Permit bush camping provided it is located 1km from designated campsites and public access roads and 50m from freshwater creeks and lakes.</p> <p>A129. Increase the number of outlets where camping permits can be obtained.</p> <p>A130. Ensure visitors are aware of the need to take all rubbish out of the management area.</p> <p>A131. Encourage visitors to bring portable toilets and take all waste home with them, or dispose at a recommended disposal point.</p> <p>A132. Camping permits are to phase in a condition for campers, to bring portable toilets when at Nine Mile Beach and Scouts Camp once waste disposal sites have been identified with Rockhampton Regional Council.</p> <p>A133. Investigate options with Rockhampton Regional Council to establish portable toilet (porta-loos) dumping facilities in the local area.</p> <p>A134. Permit camping in the designated site at Scouts Camp for less than 15 people.</p> <p>A135. Inform visitors of the requirement to bring clean, milled timber when having a campfire.</p>

4.5.5 Commercial tourism

Commercial tourism operators play an important role in nature-based tourism in central Queensland. The personalised interaction with visitors, combined with the provision of guided and supervised recreation activities, helps ensure the appropriate use of natural areas and can help enhance the visitor experience.

In the management area, eight commercial activity permits are current; seven of these provide for guided tours, one provides for commercial camping at Five Rocks camping area and one for driver training on the sand track system.

It is desirable to expand the number and range of nature-based commercial tours that can provide opportunities for visitors, who otherwise would not visit, to explore the Byfield area.



Beach Crab, Photo: Jo Kurpershoek, QPWS

Table 13 Management strategy for commercial tourism

Desired outcome 2020	Actions and guidelines
<p>Commercial activities are providing additional and exciting options for nature-based tourism.</p> <p>Appropriate balance between independent travellers and commercial operator tours exists.</p> <p>The inter-tidal areas and the internal waters of Corio Bay are complementary to the adjoining terrestrial zones and management objectives for tourist programs.</p> <p>Commercial tourism ventures do not impact on the natural and cultural values.</p>	<p>A136. Encourage and permit new commercial tourism ventures that are non-extractive and nature-based, promote the natural and cultural values of the area and do not impact on independent visitors' experience.</p> <p>A137. Ensure commercial operators do not impact on the current management area's infrastructure such as roads, boat launching areas, tracks and beach access points.</p> <p>A138. Continue to encourage licensed tour operators and the tourism industry to provide information that is accurate and appropriate for the area.</p> <p>A139. Exclude the Byfield Area from the standard Marine Park roving tourist operator's permit.</p> <p>A140. Provide opportunities for commercial tour operators at Water Park Creek and Five Rocks camping and day-use areas.</p> <p>A141. Promote opportunities for non-motorised marine water sport tours such as kayak tours.</p> <p>A142. Prohibit commercial retail services, such as vendor or hire services in the management area, such as land yachts, land sails, small dinghy hire or beach hire equipment.</p> <p>A143. No commercial aircraft permitted below 1500 feet except in emergency situations or for specific management purposes.</p> <p>A144. No motorised marine water sports or high-speed vessels permitted in tourism programs in Corio Bay and adjoining waters to the management area.</p> <p>A145. No charter boat fishing tours.</p> <p>A146. Prohibit tourist permits accessing Sandy Point between 1 October - 31 March each year and condition operators to not approach other seabird and wader roosting and breeding sites to protect roosting and breeding migratory birds.</p>

4.5.6 Day-use visitor facilities

Byfield is a popular day visit destination for a range of recreation pursuits including nature-based beach activities, picnicking, driving tours and walking.

Facilities are provided at four day-use visitor sites, each offering different visitor experiences in different landscape settings (Appendix D, Table 6). Information of the numbers of day-use visitors, the sites they visit and what attracts them to the different areas is limited.

Upper Stony is one of the most frequently visited day-use areas, with weekends, public holidays and school holidays attracting hundreds of visitors. During the warmer months, people swim in the creek and use the gas barbeques or have a picnic. There are also two short walks. At peak visitation times, car parking availability can become limited, and there are occasional conflicts between the visitors using the camping facilities on the south-western side of the creek and those accessing the day-use facilities on the north-eastern side of the creek. There is no space to expand the day-use area at Upper Stony, and hence visitation must be managed in the currently developed area.

Water Park Creek day-use area tends to be visited en route to another destination. It is accessible by two-wheel drive vehicles and is centrally located. The rainforest environment combined with large open grassy areas provides a day-use facility suited to large groups. Electric barbecues, picnic tables and toilets are provided. Swimming in the creek is no longer provided for as crocodiles are known to live in the area. There



Water Park Creek day-use area, Photo: Matt Kayes, QPWS

is a short walk (1.2km) along the Bowenia circuit trail, providing opportunities for visitors to see the rainforest environment. This site is currently under-used and needs to be promoted as an alternative to the Upper Stony day-use area.

Five Rocks day-use area is used by visitors walking to Five Rocks Beach and Little Five Rocks Beach. It is accessible by four-wheel drive and foot from Stockyard Point and Five Rocks campground. The coastal heath, combined with views to the Five Rocks headland and gully, provides a quiet place for visitors to picnic.

The southern side of Corio Bay is another heavily visited day-use area. Recreation fishing, boating, swimming and other beach recreation activities are the most common recreation pursuits. A car park is provided away from the high tide mark and this is generally well used by the boating community.

Table 14 Management strategy for day-use visitor facilities

Desired outcome 2020	Actions and guidelines
A diversity of recreation activities are available, with facilities provided to manage environmental impacts and promote a positive visitor experience in day-use sites. Other sites remain in a natural undeveloped setting.	A147. Provide, upgrade and maintain visitor facilities at Red Rock, Water Park Creek and Upper Stony camping and day-use areas as outlined in Appendix D, Table 6.
Knowledge of visitor expectations and use assists management.	A148. Maintain and upgrade as required toilet facilities at Upper Stony, Water Park Creek and Red Rock visitor areas to ensure there is no contamination of the adjacent water systems.
Upper Stony continues to be a popular day-use destination.	A149. Ensure no net loss of shade trees in day-use visitor sites through active retaining, regrowing or planting trees.
	A150. Implement a survey to enable monitoring of visitor numbers over time.
	A151. Complete a visitor management strategy to review the design and capacity of State forest visitor areas to enhance the natural and recreation values of the areas and reduce actual and potential conflict between camping and day-use visitors.
	A152. Emphasise the opportunities available at Red Rock and Water Park Creek and promote these as alternative State forest day-use locations to Upper Stony.
	A153. Promote appropriate visitor behaviour and use of the facilities in pre-visit and on-site information.

4.5.7 Bushwalking

Bushwalking is a popular nature-based activity throughout the Byfield area, allowing visitors to experience the area's natural and scenic values.

QPWS has assessed all the walking tracks in the management area and identified appropriate standards for their management (Appendix D, Table 7).

Visitors are encouraged to remain on designated tracks. Walking off these tracks can degrade the natural and cultural values of the park. It can damage vegetation and soil, leading to fragmented habitat and erosion.

To encourage visitors to get out of their vehicles and experience the values of the area on foot, new walking tracks are proposed. Walks are proposed for Findlays Creek, Stockyard Point headland – Nine Mile Beach, Five Rocks Beach and headland and Jungle Track – Sandy Creek and Water Park Point. Opportunities exist to establish walking tracks to link Five Rocks headland, Five Rocks day-use and campground, Stockyard Point headland and Nine Mile Beach, thus encouraging visitors to walk to the coastal destinations rather than driving.

An increasing number of visitors enjoy longer and more adventurous walking opportunities. Mount Atherton and the coastal ranges are remote, self sufficient walking locations. It is desirable to provide an opportunity for overnight hiking, however this may require the track to be marked. Promote the walking tracks that go from the current hut on the main access track to Five Rocks campground. Visitors can continue on to Five Rocks headland and beach.



Five Rocks walking track, Byfield Conservation Park, Photo: Matt Kayes, QPWS

Table 15 Management strategy for bushwalking

Desired outcome 2020	Actions and guidelines
<p>Visitors are taking up and enjoying non-vehicle-based recreation activities as part of their park experience.</p> <p>Bushwalking activities are not causing an unacceptable impact on natural, cultural or social values.</p>	<p>A154. Maintain and promote a variety of walking opportunities ranging from short, medium and long to cater for different visitors' opportunities.</p> <p>A155. As demand and resources become available, develop further walking tracks as outlined in Appendix D, Table 7.</p> <p>A156. Promote opportunities for walks based on the use of the management road network.</p> <p>A157. Provide information to tourism organisations on bushwalking opportunities in the management area.</p> <p>A158. Consider opportunities to link walks with Byfield business operators.</p> <p>A159. Encourage visitors to remain on the designated walking trails.</p> <p>A160. Where there are observed impacts from pedestrian access, implement management to alleviate the impacts. This may include realignment of trail, closing and rehabilitating the track, or hardening of the surface in a manner which does not alter the setting of the area.</p> <p>A161. Liaise with Forestry Plantations Queensland for additional bushwalking opportunities in the Byfield State Forest.</p>

4.5.8 Mountain bike riding

Mountain bike riding is increasing in popularity. When conducted on existing vehicle tracks, this activity is considered to be a sustainable and acceptable nature-based activity in specific areas.

There can be conflicts between cyclists and pedestrians, particularly on narrow and winding tracks. For this reason, cycling is not allowed on short walks. Cyclists are welcome on the public road network but many cyclists prefer not to use this network because of potential conflict with vehicles.

The management road network provides an opportunity for cyclists to explore Byfield with minimal conflict with other user groups.

Off-track cycling can degrade the natural and cultural values of the area. To ensure the sustainability of this activity, mountain bike riding needs to be restricted to designated tracks.

Table 16 Management strategy for mountain bike riding

Desired outcome 2020	Actions and guidelines
Opportunities for mountain bike riding are promoted and are not impacting on natural and cultural values, or causing conflict with other user groups.	<p>A162. Allow mountain bike riding on the designated management track network.</p> <p>A163. Enforce the requirement for cyclists to remain on designated vehicle tracks in the management area.</p> <p>A164. Permit group mountain bike activities (such as races or tours) in the State forest sections of the management area, and ensure conditions protect the natural and cultural values of the area.</p>

4.5.9 Swimming and surfing

Swimming in the freshwater creeks is one of the reasons the Upper Stony camping and day-use area is so popular. Findlays and Freshwater creeks are also used for swimming. Rope swings are increasingly being installed along the Stony Creek where children are jumping into the creek. This activity is highly dangerous as water levels can fluctuate and rocks are regularly shifted during stream currents. At low flow times, the water quality can be reduced. QPWS monitors water quality and at times restricts the recreation use of these creeks when water quality falls below safe levels.

Other swimming opportunities are offered outside the management area in council managed lands and by commercial operators along Water Park Creek.

Surfing is also popular, particularly the breaks on the southern ends of Nine Mile and Five Rocks beaches.



Titanium Sands Findlays Creek, Byfield National Park, Photo: Matt Kayes, QPWS

Many surfers consider the surfing conditions on Nine Mile Beach and Five Rocks Beach are the best available on the Capricorn Coast.

They also enjoy the remote, natural, landscape setting, which adds to the recreation experience.

Table 17 Management strategy for swimming and surfing

Desired outcome 2020	Actions and guidelines
<p>Appropriate beach-based recreation is provided in the management area, while minimising impacts on the natural and cultural values.</p> <p>Visitors are able to enjoy safe, nature-based activities with minimal conflict between user groups.</p>	<p>A165. Encourage safe, responsible recreation activities and behaviours to minimise impacts on values and reduce conflicts with other users.</p> <p>A166. If conflicts between different nature-based recreation activities arise, review activities to minimise public risk.</p> <p>A167. Maintain purpose built facilities which support safe and appropriate recreation activities, such as facilities that provide swimmer's safe entry to Stony Creek.</p> <p>A168. Remove rope swings along creeks as they promote unsafe activities.</p>

4.5.10 Boating and associated activities

Corio Bay is a favourite boat-based fishing area for many people. Most boat users share a strong interest in protecting the marine environment. Other boat-based activities include snorkelling, sightseeing and crabbing. Kayaking and canoeing are also popular activities in Corio Bay and central Queensland coast.

Boats can be launched at Kellys Landing and Corbetts Landing. There is also informal boat launching access on the northern and southern side of Corio Bay (Appendix A, Map 9).

Corio Bay has many significant natural, cultural and landscape values. Current boat-based activities are not impacting to any significant extent on these values. However, there is a need to ensure that only nature-based recreation boating activities compatible with the area's values occur and more intense motorised

watersport activities such as the use of personalised watercraft and waterskiing are not encouraged.

Boat users need to be aware that Corio Bay can be difficult to navigate at low tides, as there are many shallow sand bars throughout the area that continually move through natural coastal processes. Boat use can also disturb roosting and feeding wading birds and measures need to be taken to protect the internationally recognised populations of bird species that use the wetlands of Corio Bay.

The Marine Parks Act and Great Barrier Reef Marine Park Act prohibits boats or vessels from discharging sewage, oil, garbage, sediment, litter or other wastes to Queensland waters. Provisions for waste receiving and pump-out facilities are located at the Roslyn Bay Marina.

Table 18 Management strategy for boating and associated activities

Desired outcome 2020	Actions and guidelines
Recreation boating activities on Corio Bay are consistent with protecting the wetland values of the bay, are safe, and do not conflict with users enjoying the tranquil and picturesque setting.	<p>A169. Promote safe, responsible recreation activities and behaviours to minimise impacts on values and reduce conflicts with other users.</p> <p>A170. Discourage motorised watersport activities, such as personalised motor watercraft and water skiing in Corio Bay and adjoining waters to the management area.</p> <p>A171. Continue to provide natural boat launching in Corio Bay at Fishing Creek and northern Corio Bay.</p> <p>A172. Boat trailers are to be parked at designated car parks.</p> <p>A173. Through interpretive materials inform visitors about boating and associated activity requirements.</p> <p>A174. Restrict vessels and other types of floating structures to anchor in Corio Bay to a maximum of 14 consecutive days and less than 30 days in any period of 60 days.</p> <p>A175. Continue to monitor impacts on the marine and landscape values from boating activities.</p> <p>A176. Provide for natural boat launching into Corio Bay from the existing Corio Bay car park and Fishing Creek.</p>



Corio Bay, Photo: John Augusteyn, QPWS

4.5.11 Aircraft

There are currently no aircraft-based commercial tourism operators using the management area. Private aircraft are known to fly-over for recreation purposes and Civil Aviation Safety Authority and Recreation Aviation Australia regulate such recreation flight activities. The Byfield management area is a spectacular and expansive natural area that could attract such tourism opportunities in the future. However, these activities can impact on the amenity for visitors to the area, and disturb feeding and roosting shorebirds in Corio Bay.

Nine Mile and Farnborough beaches can have periods where visitor numbers are high, especially during school holidays and long weekends. Fly-overs and landings in the management area raises safety concerns for visitors to the beaches.

Corio Bay is a designated Ramsar site and is protected due to significant diversity of migratory bird species. Low flying and beach landing aircraft could disturb roosting and feeding shorebirds and seabirds. It is important to manage disturbance during migration periods (Spring-Autumn) and when little terns are nesting.

Aircraft landings and fly-overs can be managed under the Marine Parks Act, where permission is required from QPWS to charter, operate, navigate or manage an aircraft in marine waters.

Safe aircraft landing areas, particularly for helicopters, are important facilities for emergency evacuations from the area. Beach landings are appropriate during low tides, but are not possible at higher tides. Helipads have been established at Stockyard Point headland and the Mount Atherton firebreak for emergency evacuations and management activities.

Table 19 Management strategy for aircraft

Desired outcome 2020	Actions and guidelines
Flights and landings do not occur, except in emergency situations. Safe helicopter landing areas are available for use in emergency situations.	A177. Prohibit the landing and taking off of aircraft from the management area except in emergency situations or for specific management purposes. A178. Prohibit aircraft flying below 1500 feet in the management area. A179. Maintain helipads for emergency evacuation purposes.



Nine Mile Beach, Photo: John Augusteyn, QPWS

4.5.12 Dog walking and horse riding

The beaches and Corio Bay lie in the Great Barrier Reef Coast Marine Park. Dogs and horses are permitted in some areas of the marine park and State forests, including the areas covered by this management plan. Marine park legislation prohibits dogs where they conflict with the management intent for the marine area.

Dogs are not permitted in Byfield National Park and Byfield Conservation Park.

Rockhampton Regional Council local law permits dogs on Nine Mile Beach north of the Nine Mile Access Track to the Stockyard Point headland cliff and on Farnborough Beach, south of the spit. During 2006, high rainfall and tide events have seen the Sandy Point spit disappear. The delineation of where dogs are permitted is no longer clear.

Stockyard Point township ratepayers only, can apply for a permit to transport dogs through the protected areas to Stockyard Point township and Nine Mile Beach to access the designated dog walking zone.

Dogs will not be permitted on Farnborough Beach north of the Byfield National Park boundary.



Dog on beach, Photo: DES

In the State forest areas, dogs are allowed, but they cannot stay overnight in the State forest unless a regulatory notice for an area is displayed or a special authority is granted. Dogs are currently allowed in all areas of State forest except Water Park Creek and Upper Stony camping and day-use areas. Dogs are allowed to stay overnight at Red Rock camping area only.

Horse riding can occur only in the Byfield State forest. Horses can be ridden through areas where a regulatory notice allowing the activity is displayed, or a permit is granted allowing the activity.

Table 20 Management strategies for dog walking and horse riding

Desired outcome 2020	Actions and guidelines
<p>Visitors and local residents can walk their dogs in specifically designated areas.</p> <p>Dogs are not significantly impacting on natural values or causing conflict with other visitors.</p> <p>Horse riding is permitted in State forests and causes no environmental impact or conflict with other visitors.</p> <p>Domestic animals, such as cats, birds and reptiles are not introduced to the area.</p>	<p>A180. Continue to allow dog walking on:</p> <ul style="list-style-type: none"> · State forest areas other than Water Park Creek and Upper Stony camping and day-use areas · the designated dog walking zone on Nine Mile Beach, north of the Nine Mile access track. (Permits for dogs to be transported through protected areas to the Nine Mile Beach dog walking area will only be considered for Stockyard Point township ratepayers). <p>A181. In dog walking areas, ensure dogs are on leads and are under effective control at all times.</p> <p>A182. Use regulatory notices to:</p> <ul style="list-style-type: none"> · prohibit dogs from beaches adjacent to Byfield National Park and Byfield Conservation Park, except for north of the Nine Mile Beach access · permit dogs on beaches north of Nine Mile Beach access track to Stockyard Point headland · continue to allow dogs to stay over night at Red Rock camping area. <p>A183. Inform Stockyard Point township ratepayers of the requirement for a permit to transport a maximum of two dogs through the protected areas to Stockyard Point township and Nine Mile Beach to access the designated dog walking zone.</p> <p>A184. Issue permits for horse riding on tracks in the State forest where appropriate, but prohibit horse riding in the State forest day-use and camping areas, Upper Stony and Water Park.</p> <p>A185. Liaise with Forestry Plantations Queensland for additional horse riding opportunities.</p> <p>A186. Encourage safe and responsible horse riding practices and respect for the area's values.</p>

4.5.13 Visitor safety

At times, vehicle access, walking tracks and camping areas need to be closed to ensure visitor safety in the face of known threats, such as logging operations, fire, flooded roads and approaching cyclones.

A number of emergency incidents have occurred in the past such as vessel stranding, driving off designated tracks and floods.

Broken glass from discarded bottles is increasingly being found along tracks into, and at, visitor areas. Reports of broken glass lacerations are increasing, particularly at Upper Stony day-use and campground area.

Rope swings are often attached to trees along creeks. This activity is dangerous as waters are shallow.

QPWS identifies potential safety concerns and completes actions to minimise risks to staff and visitors while in the management area. QPWS has a

responsibility to ensure staff and visitors are aware of potential safety risks. Information on safety risks are presented to staff and visitors through visitor guides, information boards, signs and the DES website. This information is also reinforced through ranger patrols.

Queensland Police are responsible for emergency response in conjunction with State Emergency Services. Rockhampton Regional Council also has an emergency response plan covering the management area. QPWS works with these and other agencies to provide the necessary resources and help in emergency situations.

Two helicopter pads have been established in the management area (Stockyard Point Headland and on the northern boundary) to enable emergency services to land safely in an emergency. The beaches in the management area can also be used for emergency landings by Queensland Fire and Rescue Service, State Emergency Service and QPWS if required.

Table 21 Management strategy for visitor safety

Desired outcome 2020	Actions and guidelines
<p>Visitors are aware of safety issues and visitor behaviour continually improves. Visitors are responsible for their own safety and the safety of others.</p> <p>Interpretive materials enrich visitor experiences and promote safe and responsible behaviour.</p> <p>Adequate procedures and facilities are in place to manage medical emergencies and other necessary evacuations.</p>	<p>A187. Advise visitors of safe practices and behaviours through pre-visit and on-site information.</p> <p>A188. Continue to provide safety messages through interpretive materials to encourage visitors to be aware of potential risks in the management area and discourage the use of glass materials.</p> <p>A189. Remove rope swings and tree climbing objects.</p> <p>A190. Continue to build strong relationships with other agencies in the event of an emergency and in particular Stockyard Point Rural Fire Brigade.</p> <p>A191. Ensure staff are aware of emergency procedures and are available to assist other agencies as required.</p>



Upper Stony day use area, Byfield State Forest, Photo: John Augusteyn, QPWS

4.6 Education and science

4.6.1 Education

The Byfield management area spans across marine waters, inter-tidal, coastal dunes and heath, and native forest ecosystems which support a diverse and rich collection of plants and animals, some of which are endemic to the area. Combine these special qualities with the public road and track network and this provides an easy accessible location to study the natural, cultural and social values in a safe environment.

The Rockhampton region supports a university, TAFE and numerous primary and secondary schools. These institutions regularly visit the management area to build student appreciation, knowledge and awareness of the natural ecosystems including the marine waters, forest and park management and recreation management.

Table 22 Management strategy for education

Desired outcome 2020	Actions and guidelines
Education opportunities are available to park visitors and the local community.	A192. Provide nature-based education opportunities in the management area. A193. Encourage public involvement in monitoring native species populations through community-based conservation and natural history groups.

4.6.2 Science

The Byfield area is an extremely valuable scientific reference area. It provides a large area stretching from the coastal waters, estuaries, dunes, mountain ranges with freshwater creeks in-tact. Increased knowledge of plants and animal diversity, abundance, distribution, habitat requirements and their ability to recover from natural and human impacts can improve protection of the area's natural and cultural values.

Scientific research and monitoring programs can provide valuable information towards improved management. Key areas for further research include social assessments of visitor expectations and experiences, impacts of activities on natural values, detailed understanding of impacts of pest plants and animals and methods to manage these impacts, the role of fire in maintaining vegetation communities and preparing for climate change.

There have been 11 scientific permits issued in the management area.

Large projects investigate topics including species distribution, impacts of upstream practices on the marine parks and climate change impacts. There is great value to be gained from furthering our knowledge of the ecological processes and inter-relationships of our natural environment.

Intense scientific interest and research on particular species in the area could impact on species and other flora and fauna associated with species habitat. Scientific research projects occasionally use unsightly flagging tape and unofficial signs that may impact on the visitor experience.

Obtaining and retaining data generated is essential to improving knowledge, understanding and better protected area management. There are instances where information is collected but is not adequately used to inform how the area is managed.



Research site, Blackwood woodland, Byfield National Park
Photo: John Augusteyn, QPWS

Table 23 Management strategy for science

Desired outcome 2020	Actions and guidelines
<p>Knowledge of plant and animal species distribution, abundance and habitat requirements are enhanced and are used as a basis for future management decisions.</p> <p>Research provides a greater understanding of the values of the area and the impacts of recreation and commercial uses on these values.</p> <p>QPWS and researchers are working together to facilitate information gathering and sharing to enhance management.</p>	<p>A194. Encourage scientific research programs that deliver the specific actions and guidelines outlined in this management plan and that contribute to understanding and managing significant flora and fauna and their habitats.</p> <p>A195. Liaise with tertiary institutions to benefit from their biological and ecological research and encourage further research into management aspects or implications arising from these research areas.</p> <p>A196. Monitor research permits and ensure research results are obtained, processed and forwarded to relevant staff and applied to the area's management where appropriate.</p> <p>A197. Encourage tertiary students to undertake research that is consistent with the aims of this management plan.</p> <p>A198. Manage the intensity and frequency of scientific research to ensure the area's cultural, natural and social values are not adversely affected.</p> <p>A199. Carefully assess scientific research applications and monitor and ensure compliance with permit conditions.</p> <p>A200. Ensure permit conditions include rehabilitation of any areas subject to environmental disturbances, use of environmentally friendly markers and removing flagging tape and unofficial signage.</p> <p>A201. Encourage educational and scientific users to provide the precise location of research sites so staff can monitor their use and ensure that impacts on significant habitats are minimised.</p> <p>A202. Encourage minimal impact scientific research and use of off-park resources such as Queensland Herbarium and Queensland Museum. Specimens should only be removed from the area where there is no alternative.</p> <p>A203. Ensure that educational and scientific activities are appropriate for their intended purpose and their potential impact on locations in which they take place.</p>

4.7 Partnerships

QPWS needs the support of the local community, visitors and interest groups if the vision for the management area is to be achieved. The community is more likely to develop awareness, a sense of custodianship, and help manage the area if their views, values and culture are respected and there is a shared understanding of different management perspectives. Building awareness and promoting involvement among people living near the area is particularly important.

Visitors to the Byfield area are more likely to enjoy their visit and help achieve this vision if they appreciate the values of the area and are empowered to act responsibly.

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

The local community has a significant interest, and have played an active role, in helping with on-ground management. These relationships and partnerships need to be developed further to increase a sense of custodianship, and to harness knowledge and skills that guide management and greatly benefit the

area. Community participation is more likely to be sustained if groups' views and skills are respected and assimilated, and they receive active support to implement projects.

A strong working relationship with the Darumbal people is also essential so that the views and aspirations of the Traditional Owners of the land can be included in planning and management.

Although QPWS is directly responsible for managing the area, other agencies are responsible for planning, managing or regulating certain activities in, or directly adjacent to, the area.

Some examples of QPWS partnerships include:

- Managing public access where road responsibilities are shared between Forestry Plantations Queensland and Rockhampton Regional Council.
- Managing and controlling fire are shared between the Commonwealth Department of Defence, Forestry Plantations Queensland and Queensland Fire and Rescue Service.
- Managing and controlling vehicles on beaches are shared between Rockhampton Regional Council and Queensland Police.

- Queensland Police has a role to ensure driving and visitor behaviours are lawful.
- Tourism agencies and associations develop and promote regional tourism opportunities, and have a role in promoting and providing information about the management area.
- Great Barrier Reef Marine Park Authority jointly manages the Great Barrier Reef Marine Park adjacent to the management area.
- Fitzroy Basin Association coordinates landholder and community involvement in land and water management projects.
- Darumbal people have a role to protect cultural heritage in the management area.
- Traditional Owners have a role to educate QPWS and visitors on cultural heritage management.

QPWS and Stockyard Point residents work together to share their ideas and experiences. Enhanced relationships between the Stockyard Point residents and QPWS will continue to strengthen efforts to protect the management areas values.

It is important that QPWS maintains communications with other government agencies that have a role in land use or management in the Byfield area, and where required, enter into formal agreements about resource use or facility management.



Nine Mile Beach tree planting Byfield National Park, Photo: Shellie Cash, QPWS

Table 24 Management strategy for partnerships

Desired outcome 2020	Actions and guidelines
<p>The local communities and interest groups have a strong appreciation of the management area's values and are actively involved in protecting and managing these values.</p> <p>Strong communication and cooperation exists between all agencies with interests in, and responsibilities for, managing land, resources and human behaviours in the broader Byfield area.</p>	<p>A204. Continue to build and strengthen the relationship with the Traditional Owners in planning and managing the management area.</p> <p>A205. Promote and support the establishment of a "Friends of Byfield" community group.</p> <p>A206. Encourage and support active participation of community groups, neighbours and individuals in projects that help protect and enhance the management area.</p> <p>A207. Continue to build upon established departmental relationships through a Byfield coordination group, to maintain relationships and open dialogue between government agencies with land and sea management responsibilities in the broader Byfield area.</p> <p>A208. Continue to participate in the Department of Defence, Shoalwater Bay Training Area Environmental Advisory Committee.</p> <p>A209. Continue to liaise, negotiate and initiate cooperative arrangements with agencies that have statutory responsibility for commercial or recreation activities.</p> <p>A210. Maintain cooperative and collaborative relationships with the Queensland Fire and Rescue Service, Forestry Plantations Queensland and Department of Defence about managing and controlling fires.</p> <p>A211. Investigate opportunities for appropriate cross-authorisations between Rockhampton Regional Council, Queensland Police and QPWS to facilitate cooperative compliance activities.</p> <p>A212. Promote and support research that will help inform management decisions.</p> <p>A213. Increase QPWS involvement in local events and in talking to groups such as schools, four-wheel drive clubs, trail bike riders, surf-riders and other important visitor groups to raise awareness of the management area and increase ranger presence in the community.</p> <p>A214. Communicate achievements by QPWS, agencies, community groups and volunteers to the broader community.</p>

5.0 Other key issues and responses

5.1 Pest plants and animals

5.1.1 Pest plants

There are pest plant species in the area that impact on natural and social values.

Mossman River burr *Cenchrus echinatus* is found in the coastal dunes. This species grows in disturbed soils and has burrs that are readily transported from place to place on clothing, tyres, animal fur or feathers. It is a difficult species to manage, with occurrences in camping and recreation areas there is an increasing chance of people and vehicles spreading the weed to new areas.

Rubber vine *Cryptostegia grandiflora* is found in low levels of infestation in many remote locations. This species is known for smothering established vegetation and changing the vegetation composition. Maintaining this species at its current low level will ensure that the landscape is not altered. Introduced

grasses such as Guinea *Megathyrsus maximus*, green panic *Megathyrsus maximus* var. *pubiglumis*, grader grass *Themeda quadrivalvis* and non-native giant rat's tail grass, *Sporobolus spp.* can impact on vegetation structure and composition directly and indirectly through altered fire regimes. At Byfield, their major impact is increasing the fuel biomass, resulting in more intense fires which can significantly impact on vegetation communities.

The pine plantations adjacent to the management area are a significant economic resource, but are a source for pine wildlings. If allowed to grow, pine trees can suppress the growth of native species. Wildlings are abundant in the management area and are an important species to control. Forestry Plantations Queensland is responsible for managing wildlings in the management area.

Table 25 Management strategy for pest plants

Desired outcome 2020	Actions and guidelines
<p>Pest plants are managed to minimise their impacts on the area's natural and recreation values.</p> <p>Disturbances on the environment resulting from pest control programs are minimised.</p>	<p>A215. Finalise and implement the pest plant management strategy for the management area.</p> <p>A216. Prioritise pest plant management activities in the following order:</p> <ul style="list-style-type: none"> · species listed in legislation as requiring management or eradication · species which are directly impacting on ecosystems and where control or eradication is possible (such as rubber vine) · species which have the potential to have significant indirect impacts on natural ecosystems through promotion of fire (such as grader grass and guinea grass) · species which are having impact on recreation amenity (such as Mossman River grass and lantana around high visitation areas) · species which are affecting high value scenic landscapes (such as siratro on foredunes). <p>A217. Encourage cooperative pest plant control projects with adjacent land managers and community groups to enhance management.</p> <p>A218. Work with Forestry Plantations Queensland to ensure pine wildlings are managed according to their policy, 'Management of exotic pine wildlings originating from Forestry Plantations Queensland plantations'.</p> <p>A219. Work with Rockhampton Regional Council to ensure giant rat's tail grass and grader grass and other pest plants are controlled in and around the management area.</p> <p>A220. Monitor water quality for chemical impacts of pest plant control.</p> <p>A221. Inform visitors and the broader community of the impacts pests plants have on species of conservation significance and ways to reduce pest plant spread.</p>

5.1.2 Pest animals

Feral pigs, cattle, wild dogs, foxes and cats occur in the management area and pose a threat to native animals and habitats. The draft pest management strategy outlines the range of feral animals present, their range, legislative status, threats and proposed management.

Table 26 Management strategy for pest animals

Desired outcome 2020	Actions and guidelines
<p>The disturbances on the environment resulting from pest control programs are minimised.</p> <p>The impact of pest animals on natural, cultural and recreation values are minimised.</p>	<p>A222. Finalise and implement the pest animal management strategy for the management area.</p> <p>A223. Develop public awareness programs with Rockhampton Regional Council on the impacts of domestic animals such as dogs and cats on wildlife and encourage responsible pet management in the Byfield area.</p> <p>A224. Encourage cooperative pest animal control projects with adjacent land managers and community groups to enhance management.</p> <p>A225. Monitor water quality for the presence of pest animals.</p> <p>A226. Inform visitors and the broader community of the impacts pest animals have on species of conservation significance.</p>

5.2 Fire management

Managing fire is a high priority as the management area is subject to regular wildfires that threaten life, property, commercial assets and biodiversity values. The fire management strategy for the area was developed in 1997 and provides direction on consideration to protecting life, property and commercial assets; and protecting and managing diverse vegetation communities, habitats and other values.

Protecting the townships of Byfield and Stockyard Point, and occupied camping areas from wildfire is the highest priority. Pine plantations are a significant commercial investment that also needs to be protected from wildfire. Fire management for the protection of life and property includes developing fire lines from which controlled back-burning can occur, and burning strategic areas to reduce fuel loads and minimise the intensity of wildfires.

Protecting and managing diverse vegetation communities and associated fauna are more complex. Rainforests, foredune communities, riparian areas, mangroves and saltmarsh are particularly fire-sensitive. Wildfire can have devastating impacts on these vegetation types and recovery from fire can take many decades. Other vegetation types such as the eucalypt woodlands with a grassy understorey require fire to maintain their structure and composition. Heath communities require fire from time to time to promote regeneration and ecosystem health.

Inappropriate burning in fire-adapted communities can also result in significant damage to flora and fauna habitat. A range of birds and mammals, for example, rely on trees with hollows. These can be depleted if burning occurs when conditions are dry.

A community bushfire action plan has been prepared for Stockyard Point township.

Forestry Plantations Queensland and the Commonwealth Department of Defence manage large areas of vegetated land adjacent to the management area. Agreements exist for cooperative fire management with these agencies. Rural Fire Service and Rockhampton Regional Council are also important partners.



Fire Management Byfield Conservation Park,
Photo: Matt Kayes, QPWS

Table 27 Management strategy for fire management

Desired outcome 2020	Actions and guidelines
<p>Fires are being managed to protect life, property and commercial assets and to protect the natural and biodiversity values of the management area.</p> <p>A cooperative approach to fire management with adjacent land managers and Queensland Fire and Rescue Service are being implemented.</p>	<p>A227. Review, finalise and implement the fire management strategy.</p> <p>A228. Rehabilitate temporary firelines and other disturbed areas resulting from fire and fire suppression activities.</p> <p>A229. Increase understanding of the ecological effects of fire and ensure that knowledge gained is fed back into fire management programs.</p> <p>A230. Continue to build and maintain partnerships with Forestry Plantations Queensland, Department of Defence, Queensland Fire and Rescue Service (including the Rural Fire Service), Rockhampton Regional Council, Stockyard Point residents and other park neighbours in relation to managing fire.</p> <p>A231. Continue to implement the Stockyard Point Community Bushfire Action Plan and review as required.</p> <p>A232. Through interpretive material, educate visitors about their role in managing campfires and what to do in an event of a fire.</p>

5.3 Climate change

The Byfield area is at risk from the effects of climate change. Higher temperatures, rising sea levels, drought and a consequent change in fire regimes are likely effects of a changed climate that would impact on the area's natural values (Australian National University 2009).

Climate change threatens many of the area's values, including:

- coastal beaches and dune systems experiencing increased erosion from rising sea waters and large king tides
- tidal estuaries and sand bars erode and disappear due to rising sea waters
- dry rainforests experience lower and more varied rainfall, increased fire frequency and intensity, and increased invasion by plant species will adversely affect these communities
- many mammal species may decline, due to core habitat being reduced

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

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



Peat Swamp Byfield National Park,
Photo: John Augusteyn, QPWS

Table 28 Management strategy for climate change

Desired outcome 2020	Actions and guidelines
<p>Understand potential impacts from climate change, particularly on the coastal environment and threatened species.</p> <p>Impacts of invasive species as a result of climate change are minimised.</p>	<p>A233. Encourage research that is associated with climate change impacts and that supports and informs management decisions.</p> <p>A234. Promote linking important habitats for climate change-affected species through establishing and maintaining corridors and connections.</p> <p>A235. Monitor the impacts of invasive species as a result of climate change and where necessary, include actions in pest management and fire programs to minimise identified impacts.</p> <p>A236. Reduce unnecessary stresses on ecosystems by controlling pest plants that impact on their structure and composition; minimising risk of widespread damaging wildfires; undertaking planned burns for ecological purposes under conditions that promote ecosystem health and the retention of critical flora and fauna habitat values.</p>

5.4 Commercial resource activities

Five commercial wildlife harvesting licences allow commercial collection of plant parts from both Forestry Plantations Queensland and QPWS-managed State forest areas (Appendix A, Map 1). Target species include Byfield fern, grass trees, macrozamas, sedges and some flowering plants. Foliage is collected for the cut-flower market, and seeds are collected for propagation in the nursery market. Harvesting plant parts from State forest areas will continue – the challenge is to manage the collection so that it is sustainable for the long-term, and doesn't impact on amenity for other forest users. A DES policy provides guidance on sustainable plant collection, including restricting taking *rare, vulnerable or endangered* plants, and specifies requirements for highly sought-after species such as grasstrees and cycads. Beach worms are a popular source of bait collected from the inter-tidal zones of Five Rocks, Nine Mile and Farnborough beaches by recreation and commercial fishers. Permits are required from Department of Employment, Economic Development and Innovation to commercially collect beach worms and DES to collect from the marine park conservation zone.

Plant collection activities are not consistent with the management intent of national parks or conservation parks, but are permitted on State forest areas where sustainable plant harvest is appropriate will be retained as State forest in the short term. This will also allow for other sustainable commercial uses consistent with the use of State forests, such as bee-keeping or gravel extraction, to be proposed and assessed.

Gravel is required for road management by Rockhampton Regional Council, Forestry Plantations Queensland and QPWS. It is desirable for agencies to share a single facility, rather than each agency establishing their own resource on land under their management. A licence for gravel extraction exists in the Pistol Gap area on State land outside the State

forest. Other extractive uses which are of economic benefit to the State and supported by government need to be located and managed to limit adverse impacts on the environment and not cause any significant loss to public access and recreation opportunities.

There are currently two grazing leases issued over the Byfield State Forest (Appendix A, Map 2). A lease covering 945ha is located on land managed by QPWS and the second lease covering 1986ha is on land managed by Forestry Plantations Queensland. The lease managed by QPWS is not due to expire until 2028.



Byfield fern, Photo: John Augusteyn, QPWS

Table 29 Management strategy for commercial resource activities

Desired outcome 2020	Actions and guidelines
Commercial use of the management area's resources are sustainable.	<p>A237. Support the sustainable use of resources in State forest tenures (but not in scientific areas or camping and day-use areas).</p> <p>A238. Work with Rockhampton Regional Council and Forestry Plantations Queensland to identify a source of gravel for road management that can be shared between agencies.</p> <p>A239. Review and assess applications for commercial activities in line with the vision and actions of this management plan.</p>

6.0 References

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7.0 Hyperlinks

Bonn Convention - <http://www.cms.int/>

China Australia Migratory Bird Agreement - <http://www.austlii.edu.au/>

Disaster Management Act 2003 - <http://www.legislation.qld.gov.au/>

Environment Protection and Biodiversity Conservation Act 1999 and Regulations 2000 - <http://www.environment.gov.au/>

Environmental Protection Act 1994 - <http://www.legislation.qld.gov.au/>

DES website - <http://www.des.qld.gov.au>

Japan Australia Migratory Bird Agreement - <http://www.austlii.edu.au/>

Key threatening process - <http://www.environment.gov.au/>

Korea Australia Migratory Bird Agreement - <http://www.austlii.edu.au/>

Landscape Classification System for Visitor Management - http://www.des.qld.gov.au/services_resources/item_details.php?item_id=201262

Nature Conservation Act 1992 - <http://www.legislation.qld.gov.au/>

Nature Conservation (Protected Areas) Regulation 1994 - <http://www.legislation.qld.gov.au/>

Nature Conservation (Wildlife Management) Regulation 2006 - <http://www.legislation.qld.gov.au/>

Nature Conservation (Wildlife) Regulation 2006 - <http://www.legislation.qld.gov.au/>

QPWS Pest Management Plan: Areas managed by the QPWS 2003-2008- <http://www.des.qld.gov.au/register/p01364aa.pdf>

Queensland Heritage Act 1992 - <http://www.legislation.qld.gov.au/>

Regional ecosystems - http://www.des.qld.gov.au/wildlife-ecosystems/biodiversity/regional_ecosystems/

8.0 Appendixes

Appendix A - Maps

Map 1 Planning area and tenure

Map 2 State forest management areas

Map 3 Marine zones

Map 4 Natural features

Map 5 Unallocated State land

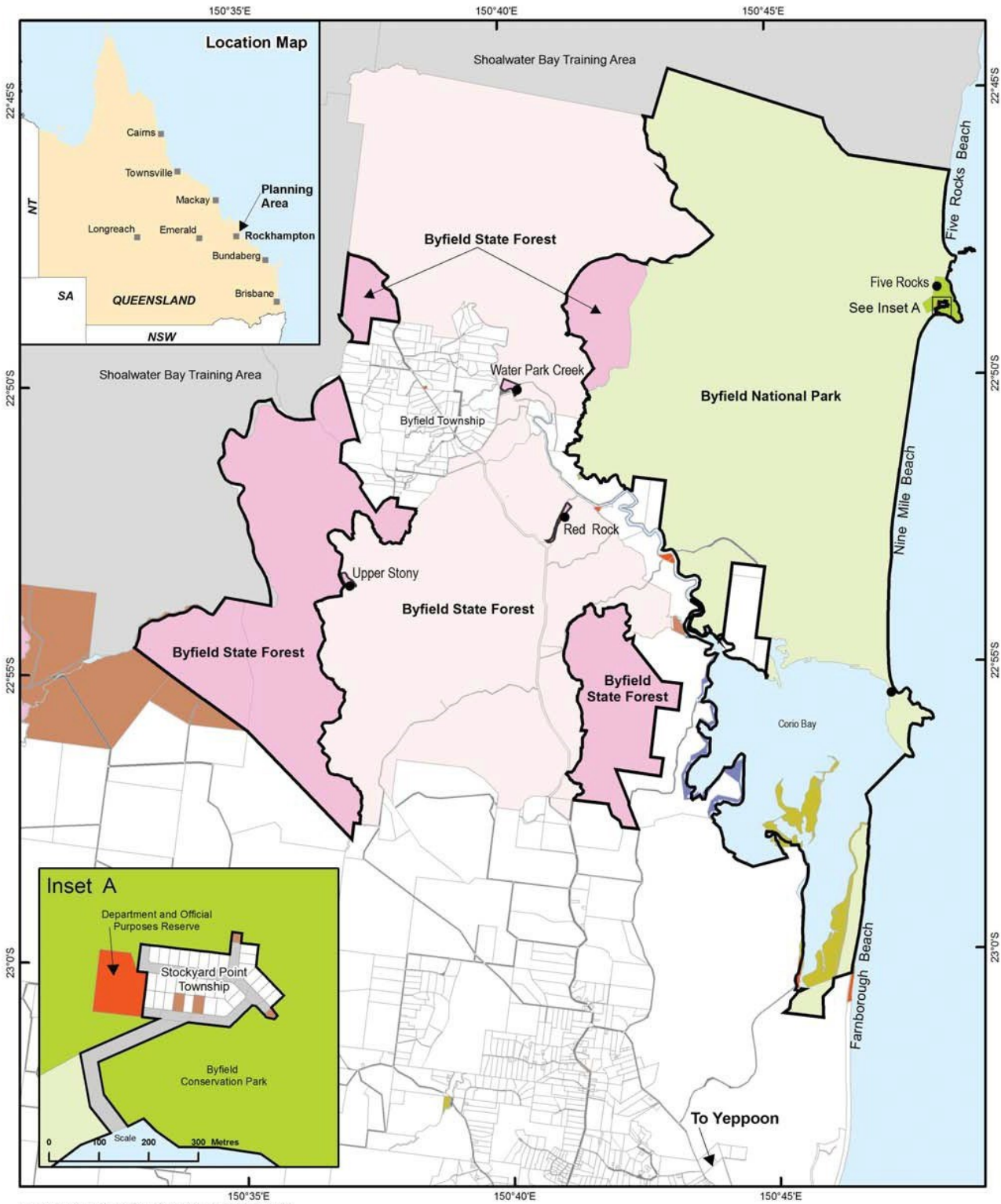
Map 6 Public access roads and tracks

Map 7 Stockyard Point proposed gazetted access

Map 8 Management zones

Map 9 Visitor facilities

Map 1 Planning area and tenure



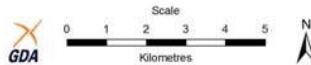
Map projection: Universal Transverse Mercator (MGA) Zone 56
 Horizontal datum: Geocentric Datum of Australia 1994 (GDA 94)

Map production:
 Spatial Services,
 Queensland Parks and Wildlife Service,
 Department of Environment and Resource Management,
 21 January 2010

Accuracy statement:
 Due to varying sources, accuracy or currency of data layers used on
 this map, the spatial location of features may not coincide when overlaid.
 This map has been produced for the purposes of discussion and
 comment. While the map has been prepared with care, neither the
 Queensland Government nor the Department of Environment and
 Resource Management accepts any liability for any decisions or
 actions taken by individuals or organisations on the basis of this map.

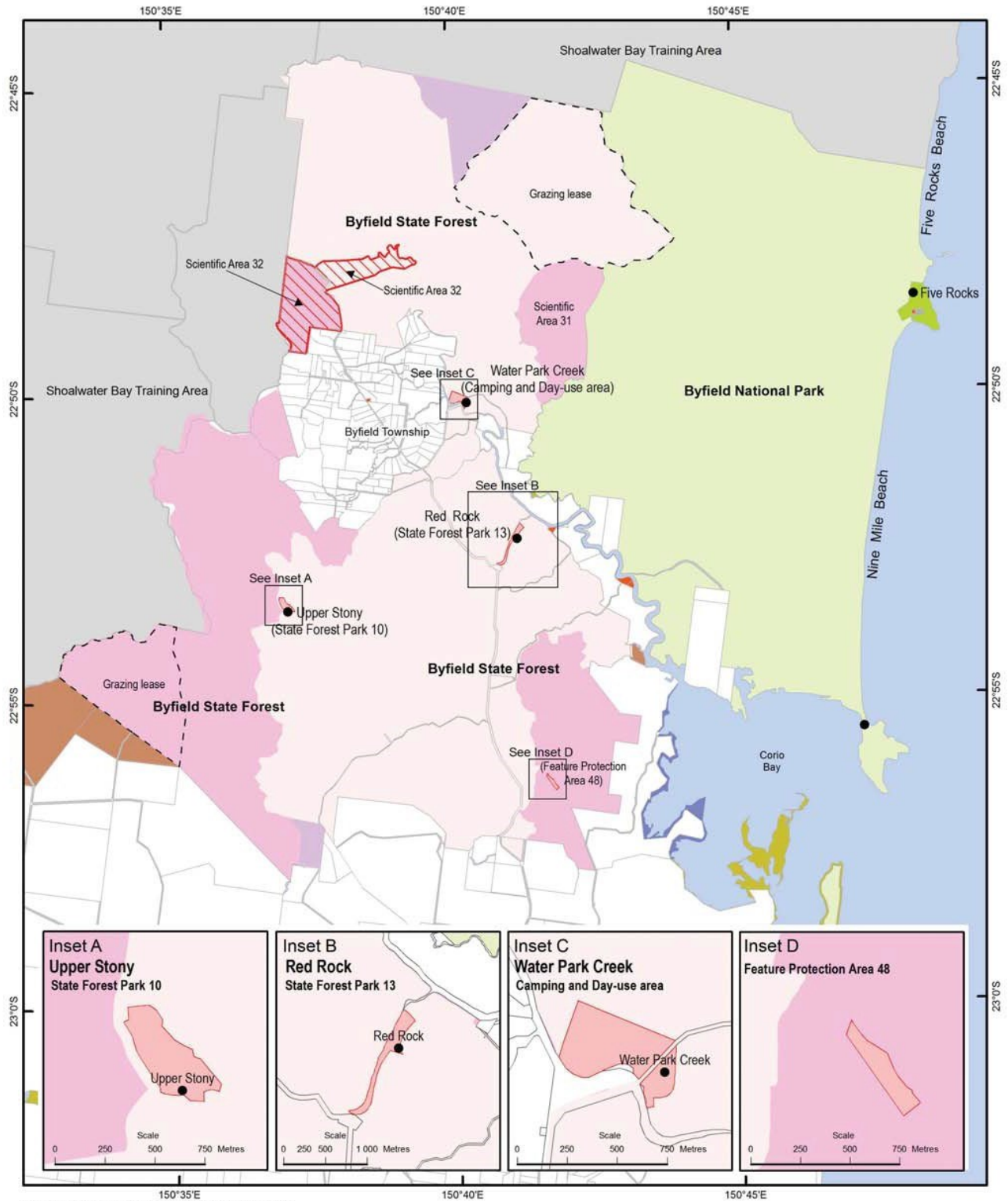
Source material:
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 FPQ Forestry Plantations Queensland
 DoD Digital Data
 Geoscience Australia Digital Data

Byfield Management Area Planning Area and Tenure



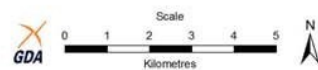
- Camping and Day-use
- Planning Area Boundary
- Tenure**
- National Park
- Conservation Park
- State Forest**
- Queensland Parks and Wildlife managed
- Forestry Plantations Queensland managed
- Freehold
- Lands Lease
- Unallocated State Land
- Reserve
- Commonwealth Freehold
- Other access**
- Esplanade

Map 2 State forest management areas



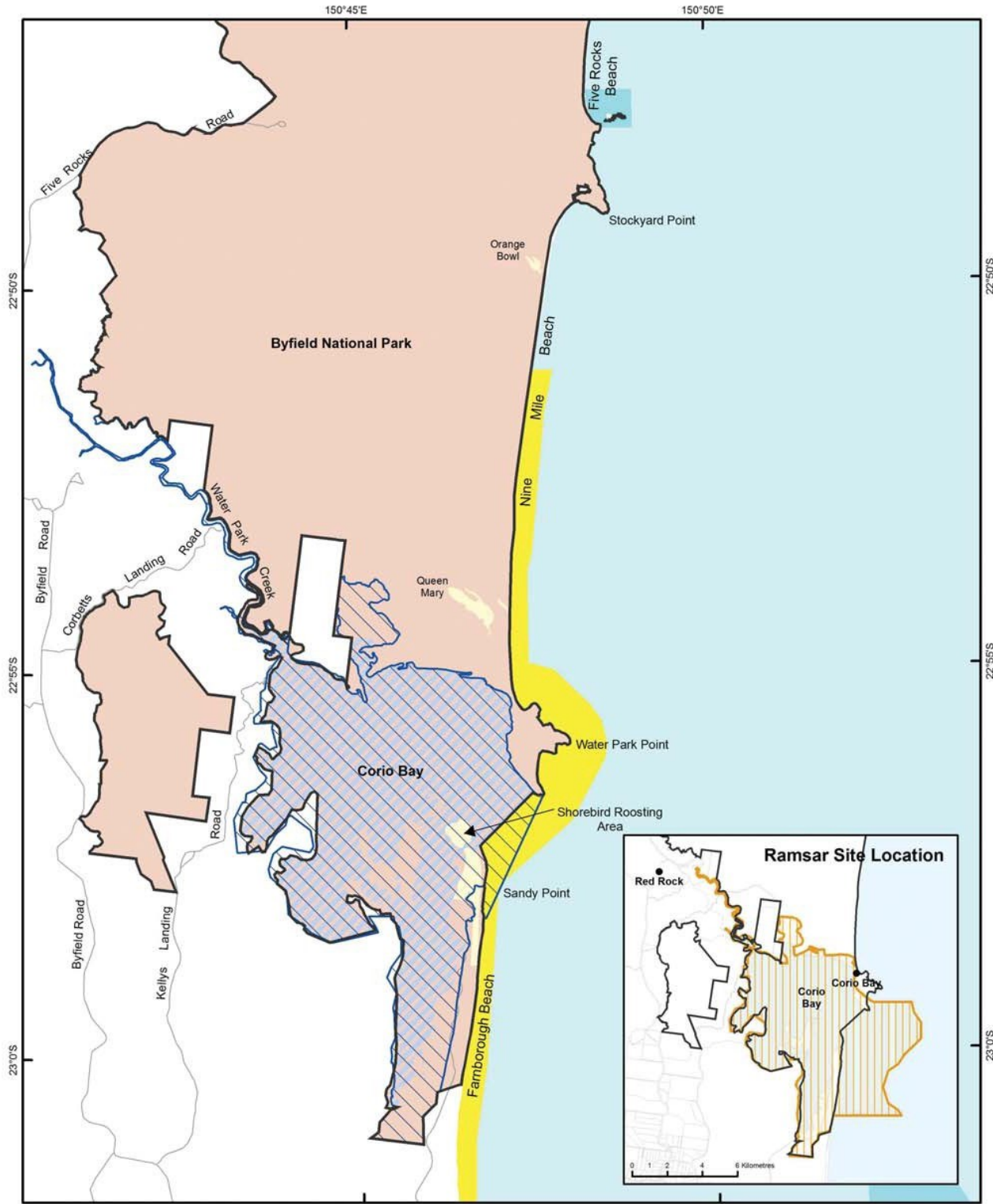
Map projection: Universal Transverse Mercator (MGA) Zone 56
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 Source material: DERM Digital Data current Estate, DERM Cadastral Data (DCDB), FPQ Forestry Plantations Queensland, DoD Digital Data

Byfield Management Area State Forest Management Areas



- Camping and Day-use
- State Forest**
 - Special Management Area
 - Scientific Area 32
 - Queensland Parks and Wildlife managed
 - Forestry Plantations Queensland managed
 - Proposed QLD Parks and Wildlife managed
 - Grazing Lease
- Other access**
 - National Park
 - Conservation Park
 - Freehold
 - Lands Lease
 - Unallocated State Land
 - Reserve
 - Commonwealth Freehold
 - Esplanade

Map 3 Marine zones



Map projection: Universal Transverse Mercator (MGA) Zone 56
Horizontal datum: Geocentric Datum of Australia 1994 (GDA 94)

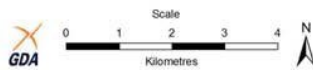
Map production:
Spatial Services,
Queensland Parks and Wildlife Service,
Department of Environment and Resource Management.
21 January 2010

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

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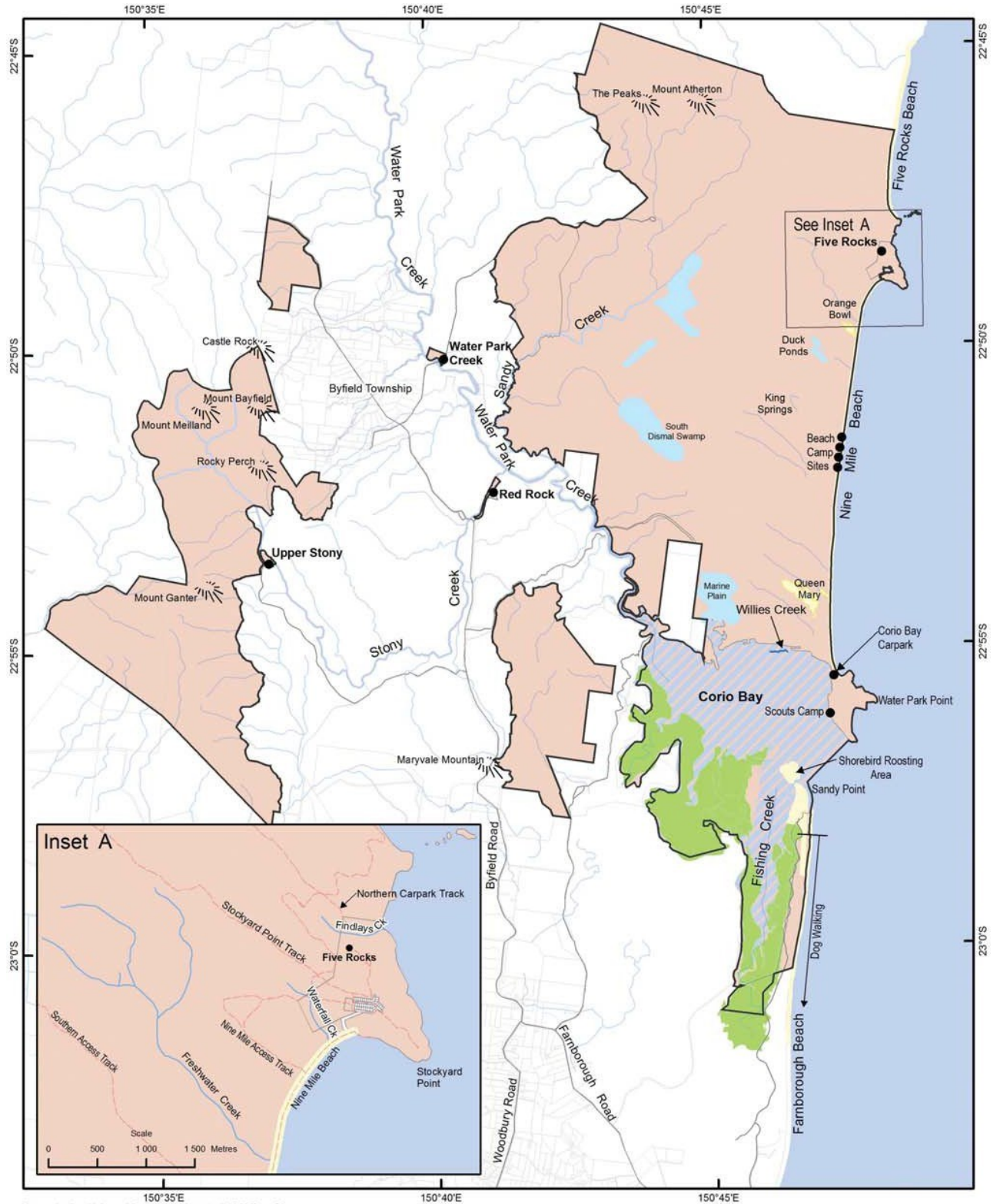
Source material:
DERM Digital Data - current Estate, Cadastral Data (DCDB)
QPI&F - Fish Habitat
GBRMPA Management Zones
Ramsar Sites (QLD)

Byfield Management Area Marine Zones



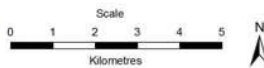
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|---|-----------------------------|------------------------|
| Great Barrier Reef Coast Marine Park Zones | | Ramsar Site |
| General Use Zone | Habitat Protection Zone | Planning Area Boundary |
| Conservation Park Zone | Planning Area - Terrestrial | Planning Area - Marine |
| Other | | Fish Habitat Area |

Map 4 Natural features



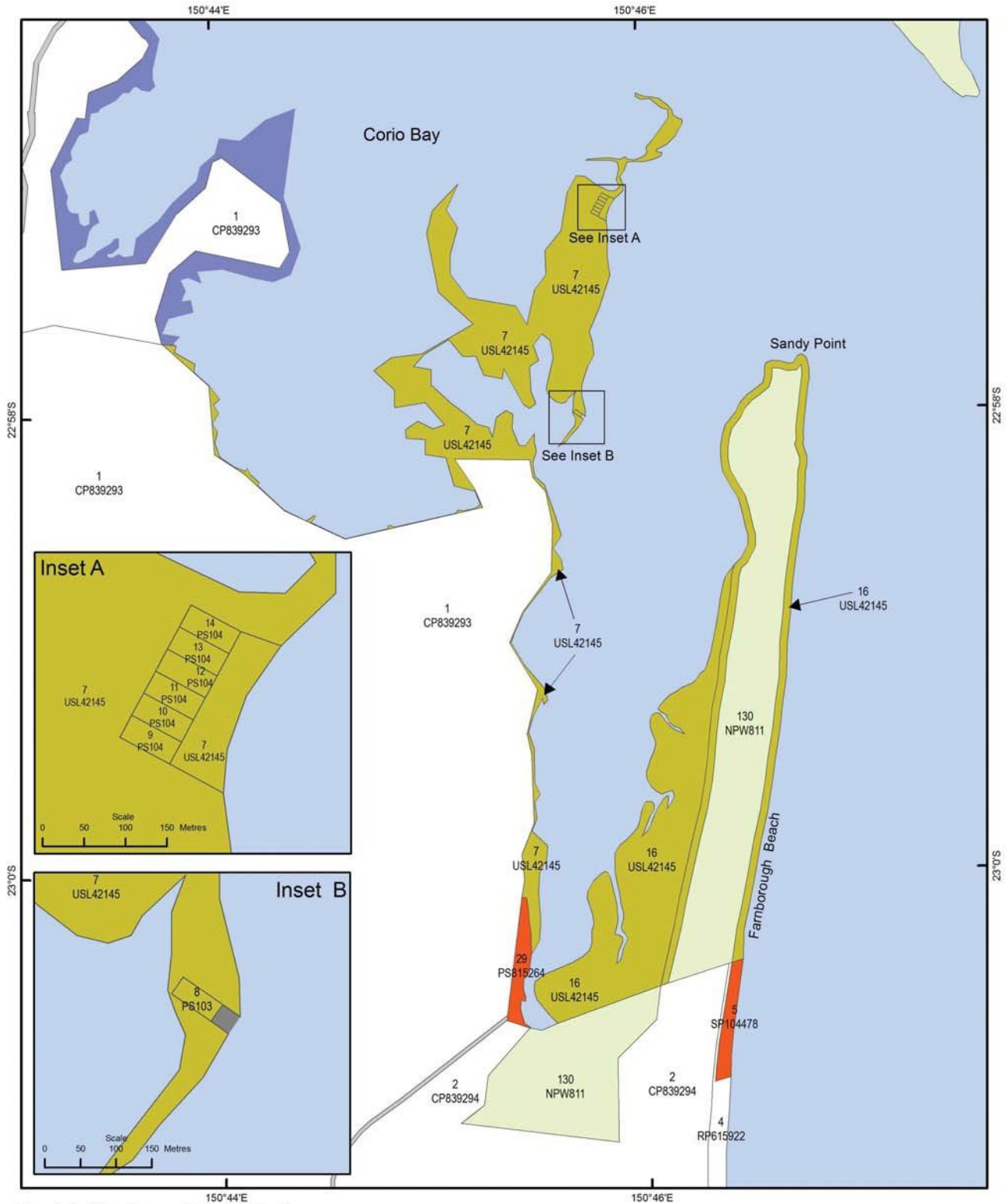
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 Map production:
 Spatial Services,
 Queensland Parks and Wildlife Service,
 Department of Environment and Resource Management.
 21 January 2010
 Accuracy statement:
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 Source material:
 DERM Digital Data - current Estate, Cadastral Data (DCDB)
 Geoscience Australia Digital Data

Byfield Management Area Natural Features Map



- Camping and Day-use
- ▲ Mountains and Hills
- Creeks
- Mangroves
- Beaches and Sand Banks
- Planning Area - Terrestrial
- Planning Area - Marine

Map 5 Unallocated State land

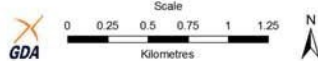


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 Map production:
 Spatial Services,
 Queensland Parks and Wildlife Service,
 Department of Environment and Resource Management,
 21 January 2010

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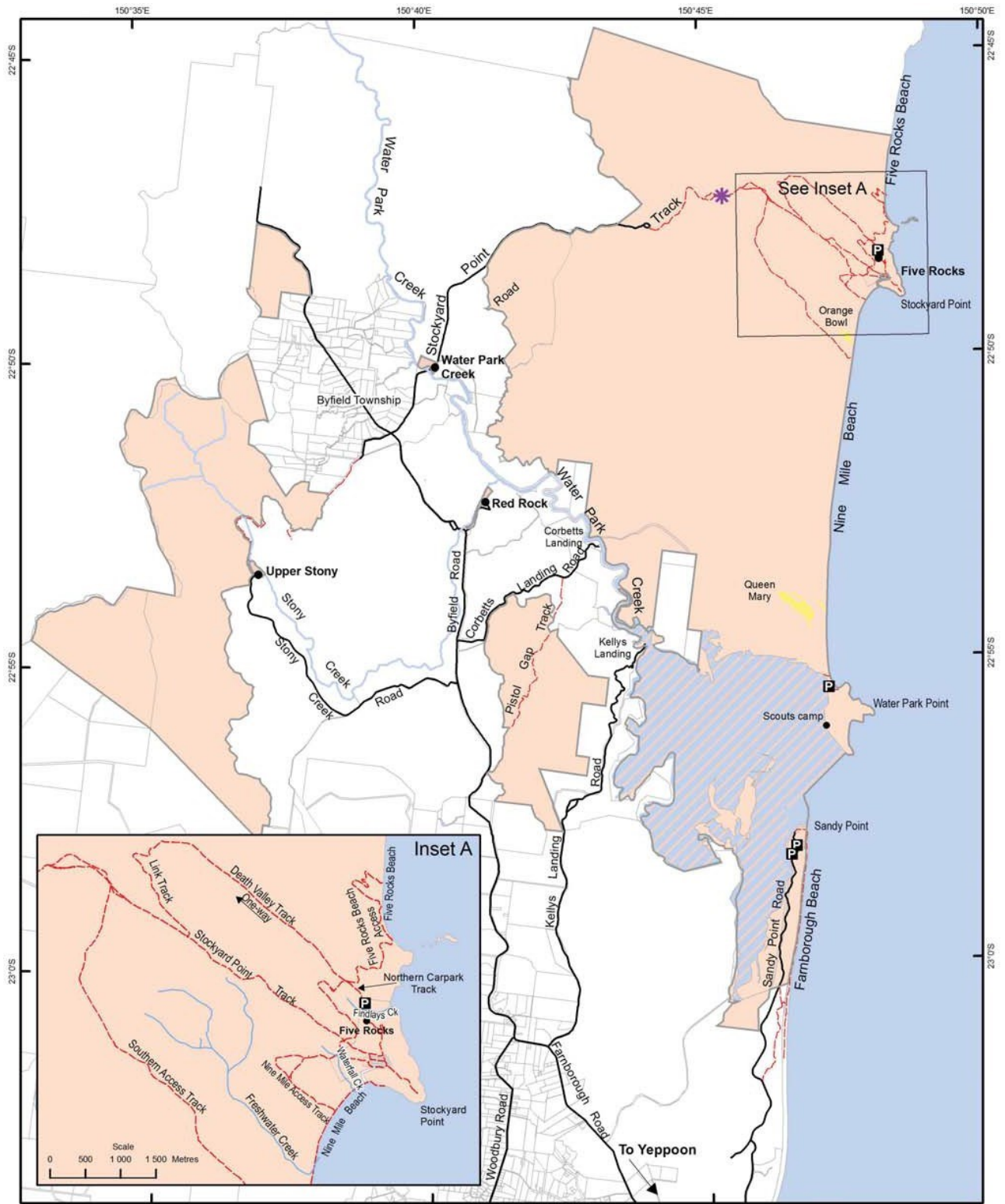
Source material:
 DERM Digital Data current Estate
 DERM Cadastral Data (DCDB)

Byfield Management Area Unallocated State Land



- National Park
- Freehold
- Unallocated State Land
- Reserve
- Esplanade
- Gazetted Road

Map 6 Public access roads and tracks

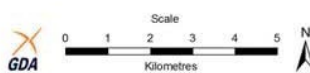


Map projection: Universal Transverse Mercator (MGA) Zone 56
 Horizontal datum: Geocentric Datum of Australia 1994 (GDA 94)
 Map production:
 Spatial Services,
 Queensland Parks and Wildlife Service,
 Department of Environment and Resource Management,
 21 January 2010

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Source material:
 DERM Digital Data - current Estate, Cadastral Data (DCDB)
 Geoscience Australia Digital Data

Byfield Management Area Public Access Roads



- Carpark
- Tyre Pressure Bay
- Roads (2WD)
- Roads (4WD)
- Camping and Day-use
- Planning Area Boundary
- Planning Area - Terrestrial
- Planning Area - Marine

Map 7 Stockyard Point proposed gazetted access



Map projection: Universal Transverse Mercator (MGA) Zone 56
 Horizontal datum: Geocentric Datum of Australia 1994 (GDA 94)

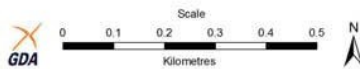
Map production:
 Spatial Services,
 Queensland Parks and Wildlife Service,
 Department of Environment and Resource Management,
 21 January 2010

Accuracy statement:
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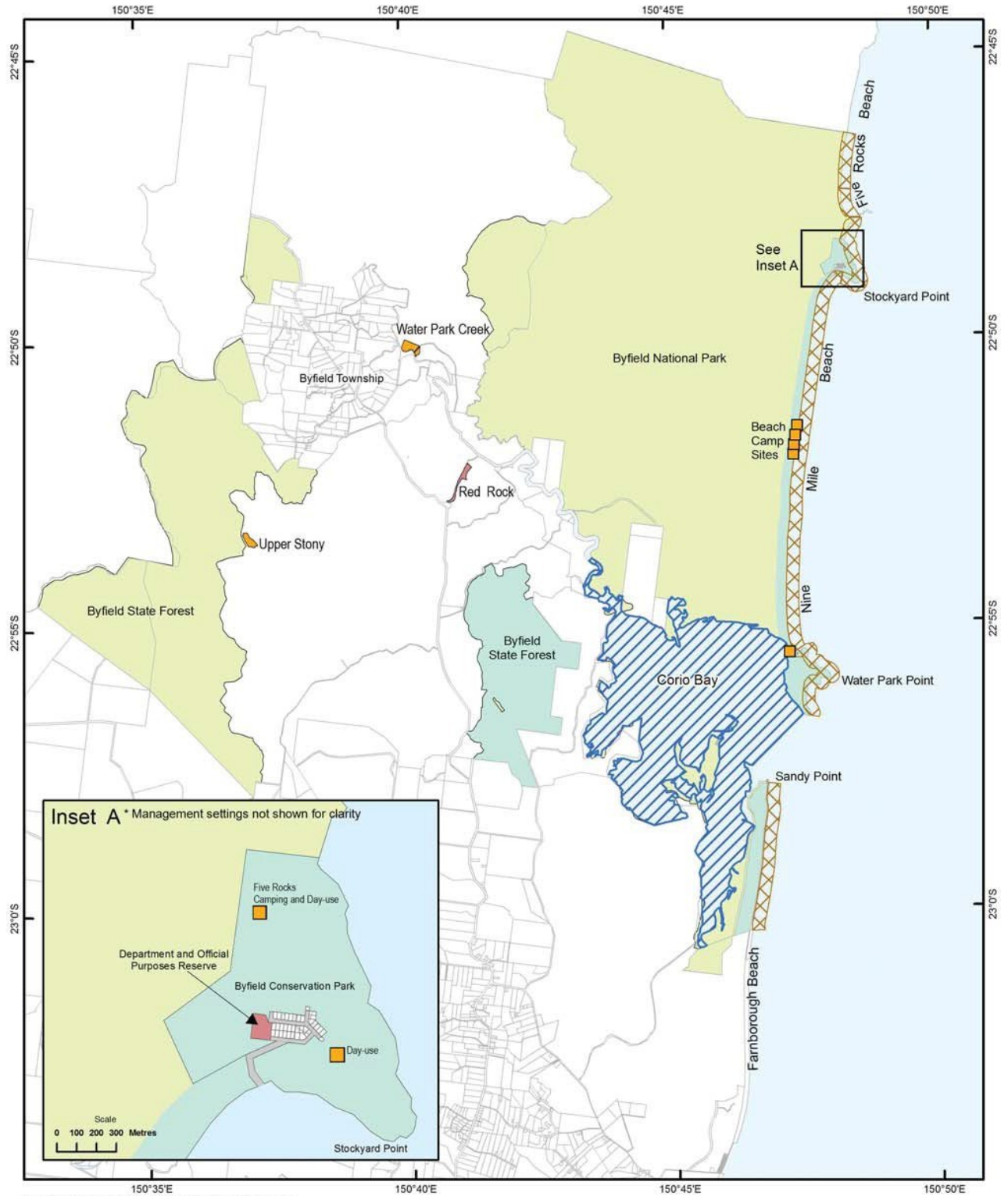
Source material:
 DERM Digital Data current Estate
 DERM Cadastral Data (DCDB), Contours 100K (NRM)

Byfield Management Area Stockyard Point Proposed Access Gazettal



- Camping and Day-use
- Stockyard Point Proposed Access Gazettal
- National Park
- Conservation Park
- Reserve
- Gazetted Road

Map 8 Management zones



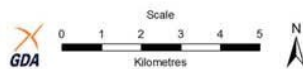
Map projection: Universal Transverse Mercator (MGA) Zone 56
 Horizontal datum: Geocentric Datum of Australia 1994 (GDA 94)

Map production:
 Spatial Services,
 Queensland Parks and Wildlife Service,
 Department of Environment and Resource Management,
 21 January 2010

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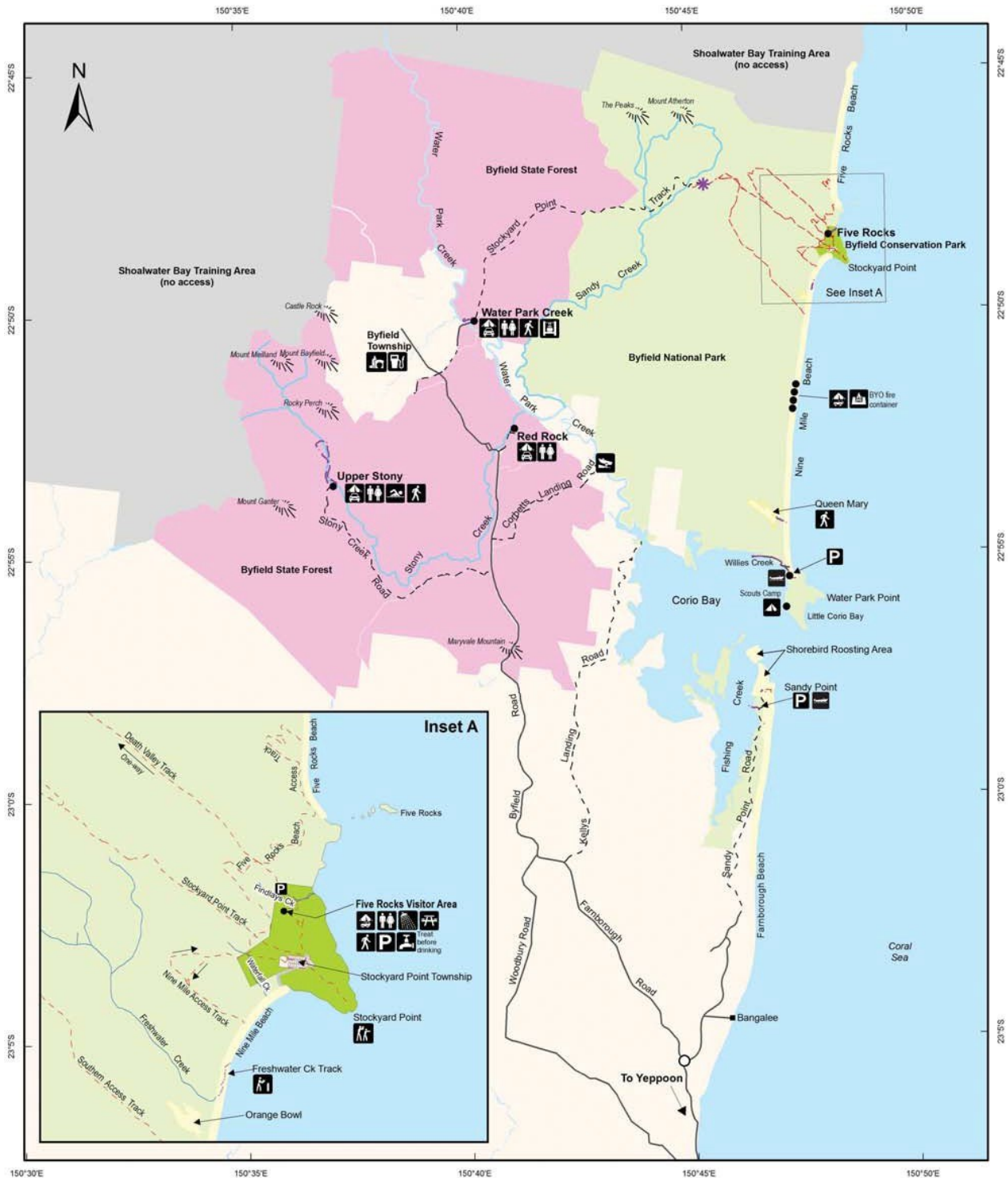
Source material:
 DERM Digital Data current Estate
 DERM Cadastral Data (DCDB)

Byfield Management Area Management Zones and Settings



- | Management zone | Marine setting |
|--|--|
| Zone 1 - Remote natural | 5 - Protected |
| Zone 2 - Natural | 4 - Natural |
| Zone 3 - Recreation | |
| Zone 4 - Developed | |

Map 9 Visitor facilities



Map projection: Universal Transverse Mercator (MGA) zone 56
 Horizontal datum: Geocentric Datum of Australia 1994 (GDA94)

Map Production:
 Spatial Services,
 Queensland Parks and Wildlife Service,
 Department of Environment and Resource Management.
 21 January 2010

Accuracy Statement:
 Due to varying source, accuracy or currency of data layers used on
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Disclaimer:
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Source Material:
 DERM Digital Data current Estate
 DERM Cadastral Data (DCDB)
 Forestry Plantations Queensland (FPQ)
 Geoscience Australia Digital Data

Byfield Management Area Visitor Facilities

- | | | | |
|-----------------------------|--|------------------|----------------------------------|
| ● Camping and day-use areas | ■ National park | Parking | Car camping |
| ✳ Tyre pressure bay | ■ Conservation park | Toilets | 4WD camping |
| — Roads (sealed) | ■ State forest | Showers | Swimming |
| - - - Roads (unsealed) | ■ Shoalwater Bay Training Area (no access) | Picnic tables | Boat ramp |
| - - - Roads (4WD only) | ■ General store | Lookout | Boating / launch |
| - - - Walking track | Petrol | Walking | BYO fire container |
| | | Self-guided walk | Automatic BBQ |
| | | Camping | treat before Water taps drinking |

Appendix B - Definitions and Acronyms

DES	Department of Environment and Science
QPWS	Queensland Parks and Wildlife Service
LCS	Landscape Classification System
Appropriate disposal of toilet waste	Portable toilets are the preferred option. Where this is not feasible, toilet waste should be buried at least 50m from any water bodies.
Commercial activity	Any activity that is conducted for gain is considered a commercial activity and can be conducted only under a permit or agreement. Examples of commercial activities include: the hire or sale of goods or services; supplying services or facilities; commercial photography and filming; undertaking a guided tour, safari, scenic flight, cruise or excursion; advertising or promoting the use of a protected area or recreation area as part of a tour, safari, scenic flight, cruise or excursion; and advertising or promoting the use of a protected area or recreation area as a feature associated with a resort or tourist facility.
Cultural heritage significance	Cultural heritage significance is defined by the <i>Queensland Heritage Act 1992</i> .
Endangered (regional ecosystems)	<p>A regional ecosystem is listed as <i>endangered</i> under the <i>Vegetation Management Act 1999</i> if: Remnant vegetation is less than 10 per cent of its pre-clearing extent across the bioregion; or 10-30 per cent of its pre-clearing extent remains and the remnant vegetation is less than 10,000 hectares.</p> <p>In addition to the criteria listed for an endangered regional ecosystems under the <i>Vegetation Management Act 1999</i>, for biodiversity planning purposes a regional ecosystem is listed with a DES Biodiversity Status of endangered if:</p> <p>less than 10 per cent of its pre-clearing extent remains unaffected by severe degradation and/or biodiversity loss*; or</p> <p>10-30 per cent of its pre-clearing extent remains unaffected by severe degradation and/or biodiversity loss and the remnant vegetation is less than 10,000 hectares; or</p> <p>it is a rare* regional ecosystem subject to a threatening process*.</p> <p>* refer to Hyperlinks - Vegetation Management Act Status and Biodiversity Status for further information.</p>
Endangered (species)	At the State level, endangered species are those species listed as <i>endangered</i> under schedule 2 of Queensland's Nature Conservation (Wildlife) Regulation 2006. At the national level, endangered species are those species listed as endangered under the Commonwealth's <i>Environment Protection and Biodiversity Conservation Act 1999</i> .
Group activity	An activity involving an organised use of a part of a QPWS-managed area; a) by a group of persons; and b) in a way that may restrict access to the park by the general public, or affect the enjoyment of the part by the general public, having regard to the location of the park and the number of members of the public that are likely to be in the area at the time the activity is being conducted. A use must satisfy both elements of the definition before it constitutes a group activity.
Landscape Classification Settings (LCS)	A landscape classification setting is a term used to describe the character of a place, which takes into account its physical, social and managerial features. Settings on parks range from high-volume areas with signs, toilets and car parks to wild, remote locations. (EPA 2001). Settings range from 1 (most natural) to 9 (most urbanised). See QPWS Operational Policy Landscape Classification System for Visitor Management.
Management principles for national parks	<p>These are specified in Section 17 of the <i>Nature Conservation Act 1992</i>:</p> <p>(1) A national park is to be managed to—</p> <ol style="list-style-type: none"> (a) provide, to the greatest possible extent, for the permanent preservation of the area's natural condition and the protection of the area's cultural resources and values; and (b) present the area's cultural and natural resources and their values; and (c) ensure that the only use of the area is nature-based and ecologically sustainable <p>(2) The management principle mentioned in subsection (1) (a) is the cardinal principle for the management of national parks.</p>

Motorised water sport	<p>Motorised water sport means any of the following activities:</p> <ul style="list-style-type: none"> (a) irregular driving of a motorised vessel — that is, driving the vessel otherwise than in a straight line (except for necessary turns or diversions), including: <ul style="list-style-type: none"> (i) driving in a circle or other pattern; or (ii) weaving or diverting; or (iii) surfing down, or jumping over or across, any wave, swell or wash; (b) an activity in which a high-speed vessel or motorised vessel tows a person on top of the water or in the air (for example, waterskiing or parasailing); (c) an activity in which a personal watercraft is used, except: <ul style="list-style-type: none"> (i) for transport by taking the most direct reasonable route and driving in a regular manner between 2 places; or (ii) if the personal watercraft can only be operated when fully submerged under the water and for the primary purpose of viewing coral.
Of concern (regional ecosystems)	<p>A regional ecosystem is listed as <i>of concern</i> under <i>Vegetation Management Act 1999</i> if remnant vegetation is 10-30 percent of its pre-clearing extent across the bioregion or more than 30 percent of its pre-clearing extent remains and the remnant extent is less than 10 000 hectares.</p> <p>In addition, for biodiversity planning purposes, regional ecosystems are assigned a DES Biodiversity Status <i>of concern</i> if 10-30 percent of its pre-clearing extent remains unaffected by moderate degradation and/or biodiversity loss. Moderate degradation and/or biodiversity loss is defined as floristic and/or faunal diversity is greatly reduced but unlikely to recover within the next 20 years even with the removal of threatening processes; or soil surface is moderately degraded.</p>
Rare	<p><i>Rare</i> species are those species listed as <i>rare</i> under schedule 4 of Queensland's Nature Conservation (Wildlife) Regulation 2006. Note the status of <i>rare</i> will be removed from the Nature Conservation Act and regulations in 2010. <i>Rare</i> species will be individually reassigned to appropriate status categories.</p>
Threatened (rare and threatened species)	<p><i>Threatened</i> species generally refers to those species that are <i>endangered</i> or <i>vulnerable</i> species. The term may also refer to other species of conservation significance that are subject to substantial threats at a regional or local level.</p>
Vessel	<p>A barge, boat, ferry, hovercraft, personal water craft, water taxi or other thing capable of carrying people or goods through water, but does not include an aircraft (<i>Marine Parks Act 2004</i>).</p>
Vulnerable	<p>At the State level, <i>vulnerable</i> species are those species listed as <i>vulnerable</i> under schedule 3 of Queensland's Nature Conservation (Wildlife) Regulation 2006. At the national level, <i>vulnerable</i> species are those species listed as <i>vulnerable</i> under the Commonwealth's <i>Environment Protection and Biodiversity Conservation Act 1999</i>.</p>
Zones	<p>Zones are smaller units in the national park, established in order to prescribe individual management regimes to each based on the conservation of natural and cultural values, on presentation values, or managing hazards and visitor safety in the area. For the purposes of this plan, zones are described in Appendix C and outlined in Appendix A, Map 8.</p>

Appendix C - Zones and Special Management Areas

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

Table 1 - Management Zone characteristics and principles

Note:

1. Appendix A, Map 8 shows the location of the zones on the park.
2. Park management will aim to achieve the stated zone characteristics.
3. Traditional use, emergency situations and management strategies may override the zone characteristics and will be assessed on a case-by-case basis.

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

ZONE 1 Remote Natural					
General description - Pristine natural areas with no evidence of modern human activity, large remote areas					
Management characteristics	Management aims	LCS settings * Setting 1-2	Expected levels of visitation	Public vehicle access	Pedestrian access / Walking tracks
	Manage almost exclusively for conservation Provide for very low levels of visitation. No facilities		Very low	None except the minimum required for special protection purposes and emergencies	Walk in, natural foot trails No formed tracks Class 5 and 6 trails permitted and managed to ensure minimal disturbance.
	Day visitor facilities	Signs and interpretation	Campsites	Visitor self-reliance	Maximum group size
	None	None	Remote campsites or zones opportunity exists Generally one group per location May have temporary or permanent delineation of sites No facilities Permit system, specific conditions, number limits	Very high	Up to 15 (as per the minimum walking group size as defined by the Queensland Federation of Bushwalking Clubs MOU) Group limits may be set for specific nodes, including seasonal restrictions
Guiding principles - Conservation, low level recreation					

ZONE 2 Natural

General description - Natural vegetation and landscape dominate and are essentially unmodified. Inconspicuous evidence of modern human activity in small limited areas.

Management characteristics	<p>Management aims</p> <p>Manage predominantly for conservation</p> <p>Natural environments with minimal hardening</p> <p>Provide for low levels of visitation</p>	<p>LCS settings *</p> <p>Setting 3-4</p>	<p>Expected levels of visitation</p> <p>Low</p>	<p>Public vehicle access</p> <p>Unformed natural surface roads</p> <p>Some restrictions may apply</p>	<p>Pedestrian access / Walking tracks</p> <p>Unformed tracks</p> <p>Some restrictions may apply</p> <p>Class 4 and 5 tracks and managed to ensure minimal disturbance</p>
	<p>Day visitor facilities</p> <p>None</p>	<p>Signs and interpretation</p> <p>Limited, preferably near boundaries</p>	<p>Campsites</p> <p>Remote campsites or nodes under strict control</p> <p>Generally one group per location</p> <p>Temporary or permanent delineation of sites</p> <p>No facilities</p> <p>Permit system, specific conditions, number limits for certain nodes</p> <p>No vehicle access</p>	<p>Visitor self-reliance</p> <p>High</p>	<p>Maximum group size</p> <p>Up to 40 depending on sites</p> <p>Group limits may be set for specific nodes, including seasonal restrictions</p>

Guiding principles - Conservation, low-level recreation

ZONE 3 Recreation

General description - Natural vegetation and landscape mostly dominates and is essentially natural but may have noticeable areas of disturbance

Management characteristics	<p>Management aims</p> <p>Manage for conservation and moderate levels of visitation</p> <p>Medium level facilities concentrated at visitor nodes in predominantly natural environment</p>	LCS settings * Settings 5-6	Expected levels of visitation Medium	Public vehicle access Formed, unsealed roads for visitor access Gravel car parks at nodes where necessary	Pedestrian access / Walking tracks Formed tracks. Some well-built tracks and boardwalks where necessary Class 2, 3 and 4 tracks
	<p>Day visitor amenities</p> <p>Basic facilities (steps, seats, handrails, toilets) may be provided</p> <p>Structures present blend well with the surrounding natural environment</p>				
Guiding principles - Conservation, medium intensity recreation					

ZONE 4 Developed					
<p>General description - Modified immediate environment but with natural or rural background. Human activity conspicuous. Small areas usually near the edge of a protected area.</p> <p>Hardened (sealed or paved) and open grassy areas may dominate the immediate landscape. Motorised vehicle sights and sounds common.</p>					
Management characteristics	<p>Management aims</p> <p>Manage for moderate to high levels of visitation</p> <p>Highly modified environments in natural areas, with high levels of facilities</p>	LCS settings * Settings 6-7	<p>Expected levels of visitation</p> <p>High to very high</p>	<p>Public vehicle access</p> <p>Sealed or all-weather unsealed roads, sealed car parks, defined parking bays</p>	<p>Pedestrian access / walking tracks</p> <p>Hardened tracks, well formed and intensively managed</p> <p>Class 1,2 and 3 tracks</p>
	<p>Day visitor facilities</p> <p>Well developed areas</p> <p>Tables or shelters</p> <p>Toilets</p>	<p>Signs and interpretation</p> <p>Comprehensive onsite</p>	<p>Campsites</p> <p>Well developed camp grounds</p> <p>Vehicle access</p> <p>Number limits and permit system</p> <p>Good toilet facilities</p> <p>Defined/structured fireplaces or barbeques</p> <p>Drinking water generally available</p>	<p>Visitor self-reliance</p> <p>Low</p>	<p>Maximum group size</p> <p>>100 depending on sites</p>
<p>Guiding principles - High-intensity recreation. A high degree of onsite management including using physical barriers to constrain movement of pedestrians and vehicles. Well-developed structures and interpretative signage present. Frequent ranger presence likely.</p>					

Table 2 - Marine setting characteristics (Great Barrier Reef Marine Park Act)

Setting	Description
Setting 1 (Developed)	Areas in this setting are immediately adjacent to urban areas and resorts. They are the access points to the management area and a focus for intensive tourism and recreation. The areas are heavily used by a wide range of craft, and contain permanent facilities (for example, marinas, jetties and boat ramps).
Setting 2 (High Use)	This is a natural setting that may have high levels of visitation. The areas in this setting are easily accessed, and appropriate facilities (for example, pontoons, moorings, markers) may be required to manage impacts and assist in visitor appreciation of the area. The areas are regularly visited by larger vessels and aircraft.
Setting 3 (Moderate Use)	This is a natural setting that may have moderate levels of visitation, with appropriate moorings and management facilities to manage impacts. The areas in this setting are occasionally visited by larger vessels and aircraft.
Setting 4 (Natural)	This is a natural setting that has low levels of visitation. The areas in this setting are generally free from facilities, larger vessels and aircraft.
Setting 5 (Protected)	This is a protected natural setting that has areas of outstanding or unique conservation value and areas of special management concern. Operations conducted in these areas are limited and managed according to individual site plans.

Appendix D - Tables

Table 1: Regional ecosystems for the Byfield Area management plan

Section	Regional Ecosystem number	Regional Ecosystem name	Vegetation Management Act 1999: status	DES Biodiversity Status	Reason for status and the threats to on-going sustainability
Byfield National Park	8.1.2	Samphire open forbland to isolated clumps of forbs on saltpans and plains adjacent to mangroves.	Least concern	Of concern	Vehicular damage by visitors has occurred in some areas.
Byfield National Park	8.1.3	<i>Sporobolus virginicus</i> grassland on marine sediments.	Of concern	Of concern	Many smaller remnants outside the Goorganga Plains area are threatened by agricultural or urban development, heavy grazing, and ponded pastures. Also vulnerable to disturbance caused by vehicular use which quickly kills off the vegetation. In other areas this regional ecosystem occurs as small patches or linear margins adjacent to saltpan and mangroves.
Byfield National Park	8.1.4	<i>Paspalum</i> spp. and <i>Fimbristylis ferruginea</i> sedgeland/grassland (estuarine wetland).	Of concern	Endangered	Threatening processes include draining and filling for agriculture and industrial development, weed invasion (particularly para-grass and hymenachne), changes to the natural fluctuation between brackish water and freshwater due to the construction of bund walls, redirection of freshwater flows, and pig damage. Relatively common on inland margins of marine ecosystems, however occurrences are generally small in size.
Byfield Conservation Park Byfield National Park	8.2.1	<i>Casuarina equisetifolia</i> open-forest to woodland with <i>Ipomoea pes-caprae</i> and <i>Spinifex sericeus</i> dominated ground layer, on foredunes.	Of concern	Of concern	Disturbance caused by vehicles, stock, and human traffic readily causes erosion and invasion by weed species
Byfield National Park	8.2.2	Microphyll vine forest on coastal dunes.	Of concern	Endangered	Prone to weed invasion and impacts of coastal development. Receives high use by recreational vehicles and foot traffic where close to urban development. Fire is a threat to this regional ecosystem.
Byfield Conservation Park Byfield National Park	8.2.3	<i>Acacia</i> spp., or a mixture of <i>Allocasuarina littoralis</i> , <i>Phyllota phyllicoides</i> and <i>Homoranthus virgatus</i> closed-scrub to open-forest with heathy understorey, on high parabolic dunes	Of concern	Of concern	Subject to damage by wildfire, particularly in late spring to early summer. Over-frequent fire can adversely affect the species composition by favouring fire-tolerant species. The steep dunes are highly erodable and can be readily damaged by 4WD activities, but currently in good condition.

Section	Regional Ecosystem number	Regional Ecosystem name	Vegetation Management Act 1999: status	DES Biodiversity Status	Reason for status and the threats to on-going sustainability
Byfield National Park	8.2.5	Notophyll feather palm vine forest dominated by <i>Archontophoenix cunninghamiana</i> on parabolic dunes.	Of concern	Of concern	Threatening processes include recreation four-wheel-driving in the Three Rivers area. This regional ecosystem has close affinities with notophyll rainforest of dune sands in the Southeast Queensland Bioregion. A naturally restricted ecosystem.
Byfield National Park	8.2.6	<i>Corymbia tessellaris</i> ± <i>Acacia leptocarpa</i> ± <i>Banksia integrifolia</i> ± <i>Melaleuca dealbata</i> ± beach scrub species open-forest on coastal parallel dunes.	Of concern	Of concern	Dune forests are naturally restricted communities which are vulnerable to erosion and weed invasion. Threatening processes include clearing for coastal residential and tourist development, and for grazing or agricultural lands, and disturbance by recreation vehicles. Fire is also a threat.
Byfield Conservation Park Byfield National Park	8.2.7	<i>Melaleuca</i> spp. and/or <i>Lophostemon suaveolens</i> and/or <i>Eucalyptus robusta</i> open-forest to woodland in wetlands associated with parabolic dunes.	Of concern	Endangered	Scattered in small areas along the coastline, particularly around Mackay and Slade Point where significant remnants of the <i>Melaleuca leucadendra</i> swamps remain. Threatened by clearing for housing and industrial developments, susceptible to weed invasion and erosion caused by recreation activities. Susceptible to hydrology changes caused by alteration of the surrounding terrain.
Byfield National Park	8.2.10	Sand blows with bare sand and areas of sparse hermland/shrubland.	Of concern	Of concern	Fire in adjacent areas potentially will increase the size and erodibility of these areas.
Byfield National Park	8.2.12	<i>Eucalyptus</i> spp. open woodland to open-forest often with a heath understorey, or <i>Acacia</i> spp. and/or <i>Leptospermum neglectum</i> , and/or <i>Allocasuarina littoralis</i> shrubland, on parallel dunes	Of concern	Of concern	
Byfield National Park	8.3.1	Semi-deciduous notophyll/mesophyll vine forest fringing watercourses on alluvial plains.	Of concern	Endangered	Threatened by fire, and weed invasion
Byfield National Park	8.3.3	<i>Melaleuca leucadendra</i> or <i>M. fluviatilis</i> ± <i>Casuarina cunninghamiana</i> open-forest to woodland, fringing watercourses.	Not of concern	Of concern	Subject to invasion by herbaceous weeds (e.g. <i>Panicum maximum</i>)

Section	Regional Ecosystem number	Regional Ecosystem name	Vegetation Management Act 1999: status	DES Biodiversity Status	Reason for status and the threats to on-going sustainability
Byfield National Park	8.3.6	<i>Eucalyptus tereticornis</i> , <i>Corymbia intermedia</i> and <i>Lophostemon suaveolens</i> (or <i>C. tessellaris</i> dominant) open-forest on alluvial levees and lower terraces.	Of concern	Endangered (under review)	Very little remains of this vegetation type due to its occurrence on very fertile alluvial soils which have mainly been cleared for agriculture. The species composition is therefore based on minimal information. Many remaining areas are heavily infested with herbaceous weeds, and the few remaining areas in reasonable condition are highly threatened by weed invasion due to the high fertility of the soils.
Byfield National Park	8.3.8	<i>Syncarpia glomulifera</i> , <i>Eucalyptus portuensis</i> , <i>Corymbia intermedia</i> open-forest on sandy creek flats and granite outwash.	Of concern	Of concern	Some areas with feral pine trees (self propagating). Some areas of freehold land are being cleared for pine plantations. Plant harvesting is a potential threat.
Byfield National Park	8.3.13	<i>Eucalyptus tereticornis</i> and/or <i>Corymbia tessellaris</i> and/or <i>Melaleuca</i> spp. open-woodland to open-forest on alluvial and old marine plains, often adjacent to estuarine areas.	Of concern	Endangered	These areas adjacent to mangroves
Byfield National Park	8.9.1	<i>Eucalyptus latisinensis</i> ± <i>E. exserta</i> ± <i>E. crebra</i> ± <i>Syncarpia glomulifera</i> woodland to open-forest, with a heath or shrubby understorey on low rises in coastal sand plains	Of concern	Of concern	
Byfield National Park	8.11.2	Notophyll microphyll vine forest ± <i>Araucaria cunninghamii</i> on low ranges on Permian sediments ± volcanics.	Of concern	Of concern	Fire and military land use represent major threats. Major rainforest type of coastal hills and ranges.

Section	Regional Ecosystem number	Regional Ecosystem name	Vegetation Management Act 1999: status	DES Biodiversity Status	Reason for status and the threats to on-going sustainability
Byfield National Park	8.11.3	Mixed eucalypt including <i>Corymbia intermedia</i> , <i>Eucalyptus portuensis</i> , <i>C. clarksoniana</i> , <i>E. platyphylla</i> and <i>E. drepanophylla</i> open-forest to woodland on low hills, on metamorphosed sediments.	Not of concern	Of concern (under review)	
Byfield National Park	8.11.6	<i>Eucalyptus latisinensis</i> and/or <i>E. crebra</i> and/or <i>Corymbia intermedia</i> and/or <i>E. portuensis</i> open-forest to woodland on metamorphosed sediments.	Of concern	Of concern	

(Please note that regional ecosystems identified as 'Not of Concern' under both the *Vegetation Management Act 1999* and the DES Biodiversity status are not listed in this table).

Table 2: Vulnerable, endangered or rare native animals for the Byfield management area

Family	Scientific name	Common name	Status under the Nature Conservation Act 1992	Status under the Environment Protection and Biodiversity Conservation Act 1999
Anatidae	<i>Nettapus coromandelianus</i>	cotton pygmy goose	Rare	
Burhinidae	<i>Esacus magnirostris</i>	beach thick-knee	Vulnerable	
Accipitridae	<i>Accipiter novaehollandiae</i>	grey goshawk	Rare	
Accipitridae	<i>Lophoictinia isura</i>	square-tailed kite	Rare	
Anatidae	<i>Tadorna radjah</i>	radjah shelduck	Rare	
Cacatuidae	<i>Calyptorhynchus lathami</i>	glossy black-cockatoo	Vulnerable	
Ciconiidae	<i>Ephippiorhynchus asiaticus</i>	black necked stork	Rare	
Crocodylidae	<i>Crocodylus porosus</i>	estuarine crocodile	Vulnerable	
Dasyuridae	<i>Dasyurus hallucatus</i>	northern quoll		Endangered
Dugongidae	<i>Dugong dugon</i>	dugong	Vulnerable	
Elapidae	<i>Acanthophis antarcticus</i>	common death adder	Rare	
Haematopodidae	<i>Haematopus fuliginosus</i>	sooty oystercatcher	Rare	
Laridae	<i>Sterna albiforins</i>	little tern	Endangered	
Limnodynastidae	<i>Adelotus brevis</i>	tusked frog	Vulnerable	
Megadematidae	<i>Macroderma gigas</i>	ghost bat	Vulnerable	Vulnerable

Family	Scientific name	Common name	Status under the Nature Conservation Act 1992	Status under the Environment Protection and Biodiversity Conservation Act 1999
Meliphagidae	<i>Anthochaera phrygia</i>	regent honeyeater	Endangered	Endangered
Procellariidae	<i>Macronectes giganteus</i>	southern giant-petrel	Endangered	Endangered
Scolopacidae	<i>Numenius madagascariensis</i>	eastern curlew	Rare	
Strigidae	<i>Ninox strenua</i>	powerful owl	Vulnerable	
Strigidae	<i>Ninox rufa queenslandica</i>	rufous owl (southern subspecies)	Vulnerable	
Testudinidae	<i>Caretta caretta</i>	loggerhead turtle	Endangered	Endangered
Testudinidae	<i>Natator depressus</i>	flatback turtle	Vulnerable	
Testudinidae	<i>Chelonia mydas</i>	green turtle	Vulnerable	Vulnerable
Turnicidae	<i>Turnix melanogaster</i>	black-breasted button-quail	Vulnerable	Vulnerable

Table 3: Bird species listed in international agreements for the Byfield management area

Family	Scientific name	Common name	JAMBA	CAMBA
Charodriidae	<i>Charadrius leschenaultii</i>	greater sand plover	✓	✓
Charodriidae	<i>Pluvialis squatarola</i>	grey plover	✓	✓
Charodriidae	<i>Pluvialis fulva</i>	Pacific golden plover	✓	✓
Scolopacidae	<i>Arenaria interpres</i>	ruddy turnstone	✓	✓
Scolopacidae	<i>Calidris canutus</i>	red knot	✓	✓
Scolopacidae	<i>Calidris ferruginea</i>	curlew sandpiper		✓
Scolopacidae	<i>Calidris tenuirostris</i>	great knot	✓	✓
Scolopacidae	<i>Calidris ruficollis</i>	red-necked stint	✓	✓
Scolopacidae	<i>Calidris acuminata</i>	sharp-tailed sandpiper	✓	✓
Scolopacidae	<i>Calidris alba</i>	sanderling	✓	✓
Scolopacidae	<i>Limosa lapponica</i>	bar-tailed godwit	✓	✓
Scolopacidae	<i>Numenius madagascariensis</i>	eastern curlew		✓
Scolopacidae	<i>Tringa nebularia</i>	common greenshank		✓
Scolopacidae	<i>Tringa incana</i>	wandering tattler	✓	✓
Scolopacidae	<i>Tringa brevipes</i>	grey tailed tattler	✓	✓
Scolopacidae	<i>Xenus cinereus</i>	terek sandpiper	✓	✓
Laridae	<i>Chlidonias leucopterus</i>	white-winged blacktern	✓	
Laridae	<i>Hydropogone caspia</i>	caspian tern		✓
Laridae	<i>Sternula albifrons</i>	little tern	✓	✓
Laridae	<i>Thalasseus bergii</i>	crested tern	✓	✓
Laridae	<i>Thalasseus bengalensis</i>	lesser crested tern	✓	

Table 4: Vulnerable, endangered or rare native plants for the Byfield management area

Family	Scientific name	Common name	Status under the <i>Nature Conservation Act 1992</i>	Status under the <i>Environment Protection and Biodiversity Conservation Act 1999</i>
Capparaceae	<i>Capparis thozetiana</i>	no common name	Vulnerable	Vulnerable
Celastraceae	<i>Stackhousia tryonii</i>	no common name	Rare	
Laxmanniaceae	<i>Sowerbaea subtilis</i>	no common name	Vulnerable	Vulnerable
Orchidaceae	<i>Phaius australis</i>	lesser swamp orchid	Endangered	Endangered
Polygalaceae	<i>Comesperma oblongatum</i>	Byfield matchstick	Vulnerable	Vulnerable
Proteaceae	<i>Grevillea venusta</i>	Byfield grevillea	Vulnerable	Vulnerable
Simaroubaceae	<i>Quassia bidwillii</i>	quassia	Vulnerable	Vulnerable
Thymelaeaceae	<i>Pimelea leptospermoides</i>	No common name	Rare	

Table 5: Summary of recreation opportunities

Activity	State Forest	National Park	Conservation Park	State waters and Corio Bay
Aircraft landing (recreation) - section 4.5.11	N	N	N	Y
Bushwalking - section 4.5.7	Y	Y	Y	Y
Boat launching (Corio Bay) - section 4.5.10	N	N	N	Y
Boating - section 4.5.10	N	N	N	Y
Camping (Land based) - section 4.5.4	Y	Y	Y	Y
Canoeing/ Kayaking - section 4.5.10	Y	N	N	Y
Commercial tours - section 4.5.5	Y	Y	Y	Y
Dog walking - section 4.5.12	Y	N	N	Y
Four-wheel drive - section 4.5.3	N	Y	Y	Y
Horse riding - section 4.5.12	Y	N	N	N
Motorbike riding - section 4.5.2	Y	Y	Y	Y
Mountain bike riding - section 4.5.8	Y	Y	Y	Y
Nature observation - section 4.5.7	Y	Y	Y	Y
Picnicking - section 4.5.6	Y	Y	Y	Y
Remote camping - section 4.5.4	N	Y	Y	N
Sailing - section 4.5.10	N	N	N	Y
Scenic viewing/ sightseeing - section 4.5.7	Y	Y	Y	Y
Surfing - section 4.5.9	N	N	N	Y
Swimming - section 4.5.9	Y	N	N	Y
Two-wheel drive - section 4.5.3	Y	Y	N	Y

Table 6: Management of recreation sites

Site name	Site significance and recreation opportunities	Landscape Classification Setting (LCS)	Facilities							
			Toilets		Fire - places	BBQ	Picnic tables	Open grassed areas	Parking area	Swimming/ wading
			Provided	Porta-loos						
Corio Bay	Remote Minimal infrastructure Access to Corio Bay Views of Corio Bay Bird spotting	3.5 4.5^	N	N	N	N	N	N	Y	Y
Five Rocks	Facilities at campground Base for walking opportunities	4.5* 5.0^	Y	N	N	N	Y	N	Y	N
Freshwater Creek	Freshwater running into the ocean Shady Walk	3.0	N	N	N	N	N	N	Y	Y
Orange Bowl	Views of coastline Walk in the dune	3.0	N	N	N	N	N	N	N	N
Nine Mile Beach	Remote Beach Coastal views	4.0*	N	Y	Y#	N	N	N	Y	Y
Red Rock	Open Facilities Dogs Forest walks	6.5	Y	N	Y	N	Y	Y	Y	N
Sandy Point	Remote Minimal infrastructure Access to Corio Bay Views of Corio Bay Bird spotting Fishing	4.5	N	N	N	N	N	N	Y	Y

Site name	Site significance and recreation opportunities	Landscape Classification Setting (LCS)	Facilities							
			Toilets		Fire - places	BBQ	Picnic tables	Open grassed areas	Parking area	Swimming/ wading
			Provided	Porta-loos						
Scout's Camp	Remote Access via water or walking Corio Bay views Headland access	3.5	N	Y	N	N	N	N	N	Y
Stockyard Point headland	Whale watching Views of coastline	3.5	N	N	N	N	N	N	Y	N
Upper Stony	Open lawn Facilities Freshwater swimming Two-wheeled drive access	5.5	Y	N	Y*	Y^	Y^	Y	Y	Y
Water Park Creek	Sealed road Facilities Creek Bird/ plant viewing	6.0	Y	N	Y*	Y	Y	Y	Y	N

* Provide only in the camping areas ^ Provide only in the day-use areas # BYO Portable, raised and enclosed container

Table 7: Management of walking tracks

Walking track name	Current Australian standard classification	Future Australian standard classification	Management actions/ comments
Bowenia Rainforest Circuit	4	4	Interpretive walk
Coastal Range	6	6	No track, self exploration opportunity, interpretation
Findlays car park to Little Five Rocks Beach	3	3	Short link too little Five Rocks Beach Track
Findlays Creek Circuit	-	4	Proposed new track with interpretive sign
Fishing Creek from Sandy Point Track	3	3	Defined walking track
Freshwater Creek Track	3	3	Interpretive walk
Little Five Rocks Beach Track	3	3	Fully constructed beach access with a modified surface and interpretive walk
Orange Bowl Track	-	4	Promote the walking and scenic values through interpretation
Queen Mary Track	4	4	Defined from the beach to the sand blow with interpretive sign
Stockyard Point township links: Nine Mile Beach and Five Rocks Beach day-use area and Little Five Rocks Beach Track	-	4	Proposed new track – may require formal car park away from helicopter pad with interpretive signs
Stony Creek Circuit	4	4	Defined walking track
Venusta Circuit	4	4	Defined walking track
Water Park Creek link: Jungle Track to Five Rocks camping and day-use area	-	5	Potential new track, provide an entry point to hike to Five Rocks camping and day-use area
Water Park Point Headland	6	6	No track, self exploration opportunity, interpretation