Bribie Island National Park and Bribie Island Recreation Area Management Statement 2013

Park size:	9,660ha
Bioregion:	South Eastern Queensland
QPWS region:	South East
Local government estate/areas:	Sunshine Coast Regional and Moreton Bay Regional
State electorates:	Pumicestone and Caloundra

Legislative framework

✔	*Aboriginal Cultural Heritage Act 2003*
✔	*Environment Protection and Biodiversity Conservation Act 1999* (Cwlth)
✔	*Native Title Act 1993* (Cwlth)
✔	*Nature Conservation Act 1992*
✔	*Queensland Heritage Act 1992*
✔	*Recreation* Areas *Management Act 2006*

Plans and agreements

✔	Bonn Convention
✔	China–Australia Migratory Bird Agreement
✔	Japan–Australia Migratory Bird Agreement
✔	Lyngbya Management Strategy
✔	Ramsar Convention on Wetlands
✔	Recovery Plan for Marine Turtles in Australia
✔	Republic of Korea–Australia Migratory Bird Agreement

Thematic strategies

✔	Level 2 fire management strategy
✔	Level 2 pest management strategy

Vision

Bribie Island Recreation Area (BIRA), including Bribie Island National Park (BINP) will be managed as a natural coastal landscape. Significant plant and animal species and communities, including its extensive network of wetlands, will be protected by maintaining the landscape.

Visitors will continue to enjoy the area's scenic coastal landscape, sense of remoteness and natural beauty in close proximity to the rapidly developing South East Queensland region. Queensland Parks and Wildlife Service (QPWS) works in partnership with other managers of lands in BIRA to provide sustainable nature-based recreation opportunities and to protect the area's values. Interpretation of natural values and significant Aboriginal and shared-history culture engages visitors and helps build support for conservation management programs.

Traditional Owners, community groups, businesses, local government and government agencies cooperate to ensure sustainable use and protection of the area's natural and cultural values and to resolve the area's management issues in ways that foster pride, commitment and a sense of custodianship that will support the preservation of the area's values for future generations.

Conservation purpose

The BIRA was declared in July 2005 under the *Recreation Areas Management Act 1998*. It includes BINP and adjacent lands managed by HQPlantations, Department of Transport and Main Roads, Department of Agriculture, Fisheries and Forestry, SEQ Water and Moreton Bay and Sunshine Coast regional councils. The main purpose for managing a recreation area under the *Recreation Areas Management Act 2006* is to provide, coordinate, integrate and improve recreational planning, recreational facilities and recreational management for recreation areas, having regard to:

- conservation, cultural, educational, production and recreational values of the areas
- interests of area land-holders.

Parts of BIRA are managed as part of the Moreton Bay Ramsar Site, designated a wetland of international importance by the Commonwealth Government under the Ramsar Convention. The waters and tidal areas surrounding BIRA form part of the Moreton Bay Marine Park which is managed under the *Marine Parks Act 2004* and the Marine Parks (Moreton Bay) Zoning Plan 2008. The BIRA and surrounding waters will be managed in a coordinated and complementary manner. This statement, therefore, should be read in conjunction with any management plan, strategy or policy for the marine park.

Protecting and presenting the park's values

Landscape

Bribie Island is part of a network of coastal sand landscapes stretching from Stradbroke Island to Woodgate. The island is low-lying, with a maximum elevation of less than 10 metres (m), and supports an extensive system of wetlands.

Landscape values include the long ocean beach, spectacular wildflower and shorebird viewing, lagoons and estuarine areas as well as magnificent views east across the sea to Moreton Island and west over the Pumicestone Passage to the Glass House Mountains. In comparison with the rapidly developing surroundings of South East Queensland, the BIRA has very high scenic appeal and maintains a relaxed, quiet atmosphere.

The island's geology comprises a low relief landscape of beach ridges, sand plains, estuarine, flood and tidal deposits developed during the Quaternary period of the last 1.8 million years. Old beach ridge plains form the core of the island with modern deposits of foredunes and beach ridges on the northern and southern extremities of the island. The western side comprises low sand plain, muddy tidal delta deposits and freshwater swamps. The eastern coast is undergoing long-term erosion and a narrow Holocene (last 10,000 years) foredune overlays old sand and tidal delta deposits. Exposures of coffee rock (an old cemented soil layer) and marine mud deposits are found along this side after erosion events.

In the middle of the landscape is almost 3,000ha of State forest used for commercial timber production, under a plantation licence to HQPlantations. Different blocks within four separate plantation areas support plantings of *Pinus* hybrids at various stages of growth, from seedlings to mature trees ready for harvesting.

Regional ecosystems

Fifteen regional ecosystems are conserved in the BIRA—two are endangered and five are listed as of concern (Table 1). *Casuarina glauca* forests, eucalypt forests, heathland, and herb and sedge communities are found in BINP. Other important communities include coastal cypress pine or 'Bribie pine' *Callitris columellaris*, *Corymbia intermedia* forests and coastal dune communities.

Native plants and animals

BIRA protects a range of plants and animals. Surveys have recorded at least 320 native plant species, including the endangered yellow swamp orchid *Phaius bernaysii,* swamp orchid *Phaius australis*, Christmas bells *Blandfordia grandiflora* and the vulnerable tiny wattle *Acacia baueri* (Table 2). Other species that are notable for their restricted distribution are the diverse wildflowers of the wallum heath, which can be enjoyed on the Bicentennial Walk. The swamp orchids and Christmas bells are threatened by collecting, invasive weed species, feral pigs *Sus scrofa* and inappropriate fire regimes.

The island vegetation is supported by an extensive system of wetlands (mangroves, saltmarshes, *Melaleuca quinquenervia* forests) with the central freshwater swamp wetlands of particular importance—now some of the last remaining large wetland areas of their type, once widespread in southern Queensland.

The shores are host to grey mangroves *Avicennia marina* subsp*. australasiae*, spotted mangroves *Rhizophora stylosa* and large fruited orange mangroves *Bruguiera gymnorhiza,* which grow where there is groundwater seepage. Mangrove species are protected under the *Fisheries Act 1994* and under the *Environment Protection and Biodiversity Conservation Act 1999*, as part of the Moreton Bay Ramsar Site*.*

BIRA protects relatively large areas of vegetation types that have been largely lost to development on the mainland such as wallum heathlands and swamplands, sedgelands and *Melaleuca quinquenervia* forests. These vegetation and wetland types, in addition to habitat features not present on the mainland such as the perched lagoons on the eastern side of the island, support a range of interesting animal species. The coastal environments of BIRA including the salt marsh, tidal flats, mangroves, sandy beaches, wetlands and freshwater lakes provide habitat for diversity of native animals including internationally protected resident and migratory shorebirds, threatened species and Back on Track priority species (tables 2 and 3).

Of the 383 native vertebrate animal species recorded in BIRA, approximately three quarters are birds, including seabirds, shorebirds, forest-dependent birds and birds of prey. Moreton Bay—including Bribie Island and Pumicestone Passage—is recognised as being of national and international importance for resident and migratory shorebirds. It is classed as being Queensland's third and Australia's twelfth most important shorebird habitat area, supporting at least 52 migratory bird species listed under the *Environment Protection and Biodiversity Conservation Act 1999* (Table 3). Preservation of Bribie Island's wetlands and sand spit areas is essential for the survival of these migratory birds as they provide roosting and feeding habitat for shorebirds. Around April many of the shorebirds fly thousands of kilometres to breeding areas including Alaska, China and Siberia, and then begin returning to Moreton Bay from September onwards for the southern hemisphere summer.

The Shorebird Management Strategy Moreton Bay (QPWS 2005) identifies current and potential impacts on shorebirds—both resident and migratory—and recommends management strategies. A number of sites, particularly the North Spit area are identified in the strategy as important roosting sites for shorebird species. These include the endangered little tern *Sterna albifrons,* the vulnerable Australian painted snipe *Rostratula australis*, the resident beach stone-curlew *Esacus neglectus* and the near threatened eastern curlew *Numenius madagascariensis* and black-necked stork *Ephippiorhynchus asiaticus*.

The shorebirds in the area are threatened by human disturbance and destruction of nesting sites. Human activities can cause birds to take flight from more than 200m away (Thompson 1992), using up critical energy. Birds using the North Spit are affected by people recreating near feeding and foraging sites, especially during peak human use periods, while birds using Ocean Beach are mainly disturbed by vehicles.

Nest and roosting sites within BIRA are also threatened by predation from foxes *Vulpes vulpes*, cats *Felis catus* and pigs. For example, black-necked stork numbers are known at North Spit to be impacted by foxes eating eggs and chicks. Kite surfers, helicopters and people walking or driving though shorebird habitat are also major sources of disturbance.

A special management area for shorebird protection has been created to allow individual management regimes for the areas of Ocean Beach, the western shores in the vicinity of Lime Pocket, Mission Point and Poverty Creek and North Spit. These areas have high shorebird conservation value.

Other significant resident bird species include the endangered regent honeyeater *Anthochaera phrygia*, swift parrot *Lathamus discolor* and the vulnerable powerful owl *Ninox strenua.* Emus *Dromaius novaehollandiae* have been recorded on Bribie Island, however surveys indicate that the population of this culturally significant species is not likely to be viable.

Twenty-four native terrestrial mammals are recorded for the island, including seven species of bats. Of interest is the vulnerable water mouse *Xeromys myoides*, which nests in mangroves and salt marsh communities on the western side of the island (Van Dyck and Gynther 2003) and at least one intermittently tidal wetland and one freshwater wetland on the eastern side of the island (Ian Gynther QPWS, pers. comm.). Threatening processes include predation by pigs, foxes and cats, habitat damage by pigs, cattle and horses (Gynther and Janetzki 2008) and competition for prey with cane toads *Rhinella marina* and possibly rats *Rattus rattus* (Van Dyck 1997).

Fifteen species of amphibians have been recorded from the freshwater lakes, creeks and swamps of the island, including three of the four wallum dependant frogs listed as vulnerable under the *Nature Conservation Act 1992*— wallum froglet *Crinia tinnula*, wallum rocket frog *Litoria freycineti* and wallum sedge frog *Litoria olongburensis*. These frogs are confined to the coastal lowlands and are threatened by development elsewhere in their area of distribution in South East Queensland. Habitat for the vulnerable wallum dependent frog species is threatened by runoff and drainage as well as pest species.

Twenty-five species of reptiles have been recorded in BIRA. Significant marine turtles include the vulnerable green turtle *Chelonia mydas* and endangered loggerhead turtle *Caretta caretta.* Both of these Back on Track priority species nest in the vegetated dunes of the Ocean Beach above high tide mark between October and March. As this coincides with the peak Christmas holiday visitation period, the greatest threat to turtle nests and hatchlings is

from vehicles using Ocean Beach. This is especially the case at night as nesting and hatchling marine turtles are disoriented by bright lights. Predation of eggs and hatchlings by foxes and potentially wild *dogs Canis lupus familiaris* and destruction of nests by pigs are also key threats. Trained volunteers help protect nests and collect nesting data to better inform management. Other notable reptiles include the frilled necked lizard *Chlamydosaurus kingii*, which is locally uncommon and close to the edge of its range.

Notable invertebrate species include the yabby *Cherax robustus* and the smallest crayfish in the world *Tenuibranchiurus glypticus* (Harding & Williamson 2003).

Animal surveys have been carried out in parts of BIRA, however, the knowledge of the distribution and abundance especially of threatened species remains limited. Mammals, reptiles and amphibians require more survey effort particularly in the northern sections of the park. The population trends and current status of species of high conservation significance and the effects of threatening processes also require further investigation

Aboriginal culture

The original occupants of Bribie Island were the Joondoburri clan, a sub-group of the Undanbi Peoples, speaking a dialect of the Kabi language. The island has long been a plentiful source of terrestrial and marine resources for the Traditional Owners particularly the western (passage) side of the island near the Central Swamp, which provides a reliable source of fresh water. Protection of cultural heritage places on Bribie Island is important to the Traditional Owners today, for people to understand and connect with past history. Bribie Island's important Aboriginal cultural heritage has been studied extensively, with as many as 100 sites recorded including middens, stone tool artefacts and carved and scar trees (QDEH 1991).

Almost all plant species associated with the coastal fringe wetland ecosystems had some form of traditional use or cultural significance. The common swamp water fern *Blechnum indicum*, traditionally known as bungwall or dingowa in some coastal areas, was an important food staple for Aboriginal people and is culturally significant.

The island has also played host to an interesting history of interactions between Aboriginal people and European settlers, with the first known contact being in 1799 when Matthew Flinders landed at Skirmish Point. Queensland's first Aboriginal reserve was established on Bribie Island in 1877 at White Patch.

Traditional Owners have a strong sense of ownership of information about the Aboriginal cultural values of the area. Aboriginal cultural heritage places may also require active management to ensure they are not damaged by fire, erosion, inappropriate recreation activities or management actions. It is important for QPWS to work with Traditional Owners to ensure that appropriate measures are taken to protect and, where appropriate, present cultural heritage sites and values.

Shared-history culture

Located on the shores of the major shipping channel into Moreton Bay, Bribie Island was first visited in the early 1860s by explorers and settlers. Since that time it has accommodated varied uses including grazing, a lighthouse, native timber harvesting, exotic plantations, resource extraction, beekeeping, quarantining, sand mining, a fish cannery and recreational use.

Bribie Island's grazing history centred on Poverty Creek. Remains include a cattle dip, fencing, a shack and dams. Two lighthouses have existed on Bribie Island with significant navigational history at the entrance to the major channel into Moreton Bay.

Fort Bribie was part of a national defence system in World War II and was the first line of defence in Moreton Bay to protect Brisbane. The island was considered an ideal location for artillery batteries due to the close vicinity of the shipping channels. At the end of the war, coastal defences were scaled down and any building material at Fort Bribie that could be disassembled and used elsewhere was transported off the island. Some of the barrack buildings were cut off their stumps and sold as housing, with the concrete slabs remaining.

Weathered gun emplacements and searchlight buildings, characteristic of the six-inch gun batteries used to defend Queensland's coastline during the war, are located along the ocean beach fore-dunes. Bribie Island Second World War Fortifications are listed on the Queensland Heritage Register and are an outstanding example of Australia's cultural heritage.

In 1993, the Bribie Island Fortifications Conservation Plan (Allom Lovell Marquis-Kyle 1993) was completed which records the conservation significance, condition and guiding policies for the remains. A conservation program was developed from this study and restoration works have been carried out on a number of structures. Structural assessments are also carried out on a regular basis to update required actions.

Tourism and visitor opportunities

Bribie Island is the only sand island in South East Queensland that is accessible via a bridge which makes visiting the island relatively inexpensive. Visitors can enjoy a variety of nature-based recreational activities in a range of settings accessible by four-wheel drive vehicles, boat, or on foot. Most visitors come to the area to rest and relax, go fishing, four-wheel driving and to experience the natural environment. The vast majority of visitors to the area are from South East Queensland and many revisit the area on a regular basis.

The townships on Bribie Island, which offer accommodation, food, fuel and other services, benefit economically from the national park's close proximity and popularity.

The outstanding recreational opportunities on Bribie Island continue to attract a high number of visitors from the rapidly developing local and regional community and from interstate and overseas. During peak visitor times, over the Christmas and Easter holidays and on long weekends, the Ocean Beach is often very busy. At these times some visitors feel overcrowded and there is increased potential for issues around vehicles and pedestrians sharing the beach. The areas proximity to Brisbane and the Sunshine Coast means that visitor numbers are likely to continue to increase over time. The challenge for park managers is to maintain visitor satisfaction and conserve the natural and cultural values that attract people to the area.

Bribie Island is valued for providing outdoor recreation opportunities in a range of settings, including some sites on the western shore that are accessible only by boat. Visitor surveys have shown a preference for lower levels of social interaction, limited facilities and limited access. In order to provide these experiences for visitors, land managers must actively manage visitor infrastructure, visitor numbers and the natural landscape.

A visitor management strategy will be developed to provide specific guidance for the management of recreational use and identified issues in BIRA. This will include actions and guidelines to address threats to recreational values including sustainable visitor capacities, degradation to track systems, managing commercial and group activities and managing vehicle access to tracks and beaches.

BIRA is very popular for day visitors and overnight campers. A visitor survey conducted in 2006 estimated that 80% of the total visitors to Bribie Island are day visitors.

Camping in BIRA is very popular for both locals and visitors from further afield. A range of camp settings are available at designated sites with access provided by four-wheel drive or boat only. Some unauthorised camping occurs around the lagoons and on the North Spit and results in damage to these areas from erosion, disturbance to shorebird and turtle nesting and from toileting.

Bribie Island is popular with visitors who enjoy exploring and experiencing a natural area by four-wheel drive vehicle. Ocean Beach provides a 22 kilometre (km) stretch of white sandy beach to enjoy and the accessible interior roads provide access to a range of features including remote camping and day-use sites.

In keeping with other sand islands, such as Moreton and Fraser Island, public access roads are maintained to provide a predominantly natural four-wheel drive sand island experience.

Parts of the road network are used for commercial timber production activities. Areas within the plantation estate will at times be subject to a range of forest management activities including harvesting (felling of trees and hauling timber to market), re-establishment (may include pre-planting herbicide treatment and the actual planting of plantation) and plantation maintenance (weed and fire management including prescribed burning and wildfire suppression). Many of these activities will involve heavy machinery and timber trucks operating in the area and using the roads. Entry into areas closed for forest operations is prohibited for public, staff and contractor safety. The Joint Operations Deed between QPWS and HQPlantations identifies how commercial plantation access routes and joint interest access routes will be managed.

There are a number of commercial tour providers conducting operations within BIRA. Operators predominately provide guided tours, four-wheel drive tours, camping and kayaking. Commercial filming activities are also undertaken from time to time, as well as four-wheel drive driver training.

Commercial tour operators can often assist in developing awareness, understanding and support for conservation of natural and cultural values through presentations to their clients undertaking tours.

Education and science

BIRA provides excellent opportunities for research and education due to the significant island and coastal values (recreational, ecological, cultural and historical) within easy access to the mainland. Many of the research and educational opportunities of BIRA are under-utilised.

A number of government and non-government organisations including the Queensland University of Technology, CSIRO, University of Queensland and Queensland Wader Study Group currently carry out research and monitoring in the area. Collaborative partnerships with educational and research organisations can help address research needs for BIRA's management as well as broader scientific and educational goals. Educational uses of the area by school and university students and the community fosters an appreciation of the special values of the area.

SEQ Water is also conducting monitoring on groundwater dependent vegetation and fauna, groundwater and water levels and salinity in lagoons on the eastern side of the island. This monitoring fulfils the conditions of their approval for groundwater extraction at the Banksia Beach bore field under the Environment Protection and Biodiversity Conservation Act.

Partnerships

Effective partnerships between proprietors of lands within the BIRA, Traditional Owners, neighbours and the broader community enable optimum protection and enhancement of the values within the area. Key issues for joint discussion and collaboration include fire management, pest plant and pest animal management, balancing commercial interests (such as commercial plantation management, commercial fishing, water extraction, apiaries and commercial tourism) with nature conservation, provision of low-key, nature-based recreation opportunities and management and monitoring of the Ramsar area.

A 'Joint Operations Deed' has been developed between the Department of National Parks, Recreation, Sport and Racing (NPRSR) and the licensee of the four State plantation forest areas on Bribie Island. It outlines agreements over the management of access routes and joint interest access routes, fire management, visitor management and other cooperative management.

Other government and emergency services organisations (e.g. Queensland Police, Queensland Ambulance Service, Department of Defence, State Emergency Service and urban and rural fire brigades) periodically use BIRA for training including sand driving training, bush navigation and search and rescue. These activities help to develop skills and familiarity that can be called on when incidents occur in BIRA.

Other key issues and responses

Pest management

Management of pest plants and pest animals in BIRA is guided by a Level 2 pest management strategy. This strategy outlines which pests are present and guides on ground pest management priorities and actions mostly within a single management unit. This strategy is reviewed and updated every two years.

Despite ongoing control programs, pest plants remain widespread. Perhaps the most widespread and recognisable pest plant outside of plantation areas is exotic pine wildings of *Pinus elliottii.* Significant areas of former plantation land incorporated into the national park in 2008 still support stands of pine wildings. Similarly, some stands of pine in what is now the middle of the national park derive from the first pine leases granted in the early 1960s. These early pine plantings produced large quantities of viable seed, leading to widespread growth of pine wildings on plantation and adjacent lands over a long period. Recently plantings have been restricted to a *Pinus radiata* hybrid that has been shown to have low seed viability.

Pine wildings are a significant threat to the aesthetic and recreational values of the park. If left uncontrolled, wildings will out-compete native species and limit the re-establishment of native vegetation, especially in low heath communities. A combination of mechanical, chemical and planned burning is currently implemented to control pine wilding infestations with monitoring indicating that these actions are having some success in reducing density of infestations and promoting regeneration.

Listed plants under the *Land Protection (Pest and Stock Route Management) Act 2002* include Class 3 pest plants lantana *Lantana camara* and broad-leaved pepper tree *Schinus terebinthifolia* and Class 2 pest groundsel bush *Baccharis halimifolia*. Management efforts are focused on containing the spread of these species, targeting high use areas around campgrounds and day-use areas. Rangers also monitor for the presence of emerging pests such as the Class 1 bitou bush *Chrysanthemoides monilifera* subsp. *rotundata*, and Class 2 telegraph weed *Heterotheca grandiflora*.

The cyanobacteria *Lyngbya majuscula* (Lyngbya) is a naturally occurring, filamentous, blue green algae that has occurred in bloom proportions in some northern parts of Moreton Bay since the mid 1990s. Lyngbya can have a range of adverse impacts on public health, amenity values and mangrove and seagrass communities. The Lyngbya Management Strategy has been developed to guide monitoring and mitigation of Lyngbya blooms and is being implemented by QPWS and local governments on an ongoing basis.

Pest animals identified in BIRA include Class 2 species pigs *Sus scrofa*, wild dogs *Canis lupis familiaris*, cats *Felis catus* and foxes *Vulpes vulpes*. Other significant threatening species include cattle *Bos* spp. and horses *Equus caballus*. These species impact directly on native fauna and habitat. Horses, cattle and pigs have significant impact on saltmarsh, mangrove and freshwater communities through destruction of vegetation, compaction, sedimentation and degradation of water quality, resulting in loss of habitat for important species, including water mouse *Xeromys myoides*, shorebirds, green and loggerhead turtle nests and wallum associated frogs *Litoria ologburensis, L. freycineti* and *Crinia tinnula*. Pigs, foxes, wild dogs and cats also directly predate the eggs and offspring of water mouse, shorebirds and green and loggerhead turtles. Recent management programs have concentrated on the removal of cattle and horses from the national park and the control of pig, fox and cat populations.

Fire management

QPWS utilises a comprehensive fire management system that sets standards and operational aspects of planned burns and wildlife responses on protected areas, forests and other areas of land.

Uncontrolled wildfires can pose a serious threat to life, property and natural and cultural values. However, fire has also been a key process in shaping the current plant, animal and wetland communities of BIRA and is required for the continued health and vigour of these communities.

Since the early 1990s, unplanned fires have burnt significant areas of the island at least every three to four years. The island also has a history of large wildfires. For example in 1994, a fire jumped the Pumicestone Passage from the mainland and burnt most of the island. In 2002, much of the natural vegetation on the southern end of the island was subject to a high intensity wildfire. These fires have resulted in too frequent burning of some vegetation communities, particularly on the southern end of the island. Repeated frequent burning may result in a reduction of species diversity.

Fire management is a particular challenge on the now densely populated southern end of the island. Highly flammable vegetation types in this area of BIRA abut residential and commercial precincts in a number of locations, requiring regular prescribed burning to mitigate risks to life and property to acceptable levels. Management of fire for conservation in BIRA is also complicated by the extensive pine plantations located in the centre of the island. Fire management in this area must incorporate specific actions for protecting the plantation timber resource and collaborative fire management planning and program delivery are critical for good outcomes.

In 2003, QPWS developed the Bribie Island Fire Management Strategy in consultation with a Fire Reference Group including the former Department of Primary Industries – Forestry Traditional Owners, Moreton Bay Regional Council (then Caboolture Shire Council), the former Department of Natural Resources, Mines and Energy and Queensland Fire and Rescue Service (QFRS) Bribie Island. Under the fire management system, the Fire Reference Group meets annually to discuss fire management issues.

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Management directions

Desired outcomes	Actions and guidelines
Landscape Coastal visual amenity of BIRA has been maintained. The natural processes of beach foreshore accretion and erosion are managed in accordance with current coastal management principles and legislation. Wetlands and their associated natural and cultural values are protected. BIRA water quality has been maintained at 2012 levels or improved.	A1. Manage BIRA to minimal interference with scenic amenity particularly when upgrading or extending tracks, facilities and signs. A2. Limit visitor infrastructure investment on the dynamic North Spit area. A3. Continue to make available for public use the Northern Access Track and connecting roads to Gallagher Point and Poverty Creek Access Track and the Ocean Beach (south of the Northern Searchlight). A4. Manage impacts to surface and ground water quality by: a. investigating ways of increasing use of portable toilets at camping sites not located close to existing toilet facilities (e.g. providing portable toilet waste disposal stations at key locations) b. providing permanent toilet facilities to service the popular day use site at Second Lagoon c. continuing to remove old rubbish dumps from North Spit as they are exposed and where this action will not destabilise the spit d. promoting sustainable, minimal impact recreation practices. In particular, appropriate bush toileting and waste disposal.
Regional ecosystems A diversity of vegetation types and ecosystems are protected and the natural integrity of the island is enhanced. The knowledge of plant ecology has been enhanced and used as the basis for management decisions.	A5. Regulate the frequency and intensity of fire to maintain plant species composition, and the structure and ecological dynamics of all vegetation communities in accordance with the Fire Management section of this statement. A6. Continue to liaise with SEQ Water regarding vegetation monitoring undertaken as part of the bore field management programs. A7. Establish key monitoring objectives for plant species of conservation significance on the park and support monitoring programs that achieve these objectives including: a. supporting survey and monitoring programs that further develop knowledge of BIRA's plant communities—in particular Christmas bell distribution.
Native animals Shorebird habitat (roosting, breeding and feeding sites) is identified, conserved and threats mitigated in line with international treaties. Bird species richness and abundance is maintained in BIRA. Species of conservation significance and their habitat are maintained through control of introduced species, appropriate fire regimes, water management and management of recreational impacts. Existing knowledge of animal ecology is enhanced and used as the basis for future management decisions.	A8. Implement a special management area for shorebird protection and applicable actions from the Shorebird Management Strategy Moreton Bay. A9. Establish key monitoring objectives for species of conservation significance in BIRA (Tables 2, 3 and 4) and pest plants and animals that threaten these species. Support monitoring programs that achieve these objectives including: a. liaising with research institutions and interest groups to encourage and support survey and monitoring programs b. identifying and protect potential emu habitat and monitor population numbers through ongoing observations c. collating data from external researchers into departmental databases. A10. Develop and implement an education program to limit impacts on marine turtles and shorebirds during periods when they are using the beach by discouraging vehicle use above high water mark and driving at night and/or using bright lights at night from mid-October to March. A11. Implement actions to maintain habitat for significant species by managing pest species, appropriate fire regimes and visitor and recreational impacts as per those sections of this statement. A12. Protect and enhance habitat for the vulnerable wallum dependent frog species by: a. liaising with HQPlantations regarding timber production activities near acid frog breeding sites b. reviewing road drainage systems to protect frog breeding sites

Desired outcomes	Actions and guidelines
Aboriginal culture Traditional Owners are involved in managing the area. Aboriginal cultural heritage places are identified and as far as possible protected from inappropriate uses. Aboriginal cultural heritage is interpreted and presented in consultation with Traditional Owners to ensure their cultural beliefs are respected.	A13. Meet at least annually with Traditional Owners to discuss BIRA management programs and issues. A14. Consult with Traditional Owner representatives in relation to all significant infrastructure development projects. A15. Develop information and interpretive material on Aboriginal cultural heritage in consultation with Traditional Owners and in line with their cultural beliefs. A16. Review involvement of Traditional Owner Group in management and consultation on Aboriginal cultural heritage as native title claims are registered.
Shared-history culture The rate of deterioration to historic structures is minimised and management is consistent with the revised conservation program and safety standards for visitation.	A17. Review the existing 1993 Conservation Plan and structural assessments for Fort Bribie and develop a revised conservation program. A18. Continue the structural engineer inspection program and conserve and prolong the life of representative structures as per the revised conservation program. A19. Include Fort Bribie in any visitor management strategy and, provide direction on: a. maintaining visitor safety and presenting the site's significant cultural heritage values b. enhancing access to and interpretation of the site while balancing public safety issues c. liaising with local interest groups to promote conservation and presentation of shared history cultural values and investigate potential to link with regional heritage trails such as the Brisbane Heritage Trail.
Tourism and visitor opportunities Visitor numbers to BIRA do not impact on the island's natural integrity or unique visitor experience. A diversity of day-use and overnight camping opportunities is maintained to cater for differing interests and expectations. Visitor infrastructure and associated management regimes reduce visitor impacts on BIRA's natural and cultural values and add to visitor experiences. Vehicle use in BIRA continues in a safe and sustainable manner. Safety risk involving vehicles and pedestrians at busy beach use nodes is reduced.	A20. Prepare a visitor management strategy for BIRA. The strategy will consider current issues and future trends, and will provide specific management guidelines for visitor sites and activities. The strategy will address: a. The management of camping, group activity, vehicle access and commercial activity permits in line with the desired settings of the park. A21. Undertake an environmental impact and safety assessment for any new track proposals or other proposed infrastructure. A22. Monitor recreation use impacts at visitor sites, particularly the impacts of fires in camping areas on local vegetation. A23. Prepare further guidelines for the management of vehicles on tracks and beaches as part of the development of a visitor management strategy. A24. Investigate speed limited areas at key visitor sites. A25. Maintain the existing restriction on public vehicle access into the HQPlantation licence area, other than for access along the Northern Access Track.
Interpretation Interpretive materials educate and inspire visitors to care for BIRA's natural environment and cultural heritage.	A26. Review the Communication Strategy and develop a revised interpretation program as a section within the visitor management strategy. A27. Review existing signs at the Bicentennial walks and update as necessary.

Desired outcomes	Actions and guidelines
Education and research Education fosters an understanding and appreciation of natural and cultural values, threats and conservation management programs. Research activities are consistent with park values and provide information which contributes to conservation and management of BIRA.	A28. Encourage and where possible provide practical support for research and monitoring programs, particularly those that will directly inform and benefit management of BIRA. This will be achieved through: a. developing linkages with researchers, universities, conservation and cultural heritage groups carrying out research and monitoring of BIRA's natural, cultural and recreational values b. encouraging research on topics such as plant and animal species of conservation significance, threatening processes and rehabilitation of former pine plantation land c. continuing to liaise with SEQ Water and assess monitoring reports associated with the borefield.
Partnerships Neighbours, interest groups and authorities have opportunities for involvement in park management programs. Commercial forest management occurs in a safe and sustainable manner. Government agencies and emergency services use BIRA in a sustainable way and are familiar with key BIRA features, conditions, infrastructure and contacts.	A29. Encourage and support interest groups, residents and the broader community to assist in the management of natural and cultural resources through volunteering in park management activities such as regeneration, pest management, research and monitoring. A30. Implement the Joint Operations Deed between QPWS and the State Plantation Forest licensee and update respective roles and responsibilities in various management programs. A31. Support appropriate government and emergency services training activities. Any required approvals will generally be subject to conditions designed to avoid or minimise impacts on park values and other users.
Commercial beach fishing Commercial beach fishing has minimal impact on natural, cultural and recreational values.	A32. Liaise with commercial fishers regarding ongoing vehicle access to the North Spit, and development of a Code of conduct to minimise potential impacts on other visitors, dune systems and fauna such as shorebirds and turtles.
Pest management Impacts of pest plants and animals on natural, cultural and recreational values are minimised through strategic, sustained management.	A33. Encourage and support research proposals to improve knowledge of plant and animal ecology. A34. Monitor the impacts of invasive species and, where necessary, include actions in pest management programs to minimise identified impacts. A35. Implement, review and update the pest management strategy every three years.
Cyano-bacteria Lyngbya blooms are managed in a timely, safe and sustainable manner.	A36. Continue to monitor and respond to Lyngbya outbreaks in accordance with the Lyngbya Management Strategy.
Fire management Fire is managed collaboratively with stakeholders to protect life, property, commercial assets and the natural and cultural values of the area.	A37. Coordinate joint fire management programs with QFRS and HQPlantations where QPWS estate adjoins residential development and pine plantations.

Tables – Conservation values management

Table 1: Endangered and of concern regional ecosystems

Regional ecosystem number	Description	Biodiversity status
12.1.1	*Casuarina glauca* open forest on margins of marine clay plains	Endangered
12.2.5	*Corymbia* spp., *Banksia integrifolia, Callitris columellaris, Acacia* spp. open forest to low closed forest on beach ridges usually in southern half of bioregion	Of concern
12.2.7	*Melaleuca quinquenervia* or *M. viridiflora* open forest to woodland on sand plains	Of concern
12.3.1	Gallery rainforest (notophyll vine forest) on alluvial plains	Endangered
12.3.4	*Melaleuca quinquenervia, Eucalyptus robusta* open forest on or near coastal alluvial plains	Of concern
12.3.5	*Melaleuca quinquenervia* open forest on coastal alluvium	Of concern
12.3.11	*Eucalyptus siderophloia, E. tereticornis, Corymbia intermedia* open forest on alluvial plains usually near coast	Of concern

Table 2: Species of conservation significance

Scientific name	Common name	*Nature Conservation Act 1992* status	*Environment Protection and Biodiversity Conservation Act 1999* status	Back on Track status
Plants				
Acacia baueri subsp. *baueri*	tiny wattle	Vulnerable	-	Medium
Blandfordia grandiflora	Christmas bells	Endangered	-	High
Phaius australis	swamp orchid	Endangered	Endangered	Critical
Phaius bernaysii	yellow swamp orchid	Endangered	Endangered	Critical
Animals				
Accipiter novaehollandiae	grey goshawk	Near threatened	-	-
Anthochaera phrygia	regent honeyeater	Endangered	Endangered	-
Calyptorhynchus lathami	glossy black-cockatoo	Vulnerable	-	-
Caretta caretta	loggerhead turtle	Endangered	Endangered	Critical
Chelonia mydas	green turtle	Vulnerable	Vulnerable	Critical
Crinia tinnula	wallum froglet	Vulnerable	-	High
Dermochelys coriacea	leatherback turtle	Endangered	Endangered	Critical

Scientific name	Common name	*Nature Conservation Act 1992* status	*Environment Protection and Biodiversity Conservation Act 1999* status	Back on Track status
Diomedea exulans	wandering albatross	Vulnerable	Vulnerable	-
Dugong dugon	dugong	Vulnerable	-	Critical
Ephippiorhynchus asiaticus	black necked stork (jabiru)	Near threatened	-	-
Erythrotriorchis radiatus	red goshawk	Endangered	Vulnerable	High
Esacus magnirostris	beach stone-curlew	Vulnerable	-	High
Haematopus fuliginosus	sooty oystercatcher	Near threatened	-	-
Lathamus discolor	swift parrot	Endangered	Endangered	-
Lewinia pectoralis	Lewin's rail	Near threatened	-	-
Litoria freycineti	wallum rocket frog	Vulnerable	-	-
Litoria olongburensis	wallum sedge frog	Vulnerable	Vulnerable	-
Lophoictinia isura	square-tailed kite	Near threatened	-	-
Neophema pulchella	turquoise parrot	Near threatened	-	-
Nettapus coromandelianus	cotton pygmy-goose	Near threatened	-	-
Ninox strenua	powerful owl	Vulnerable	-	-
Numenius madagascariensis	eastern curlew	Near threatened	-	-
Phascolarctos cinereus (South East Queensland bioregion)	koala (South East Queensland bioregion)	Vulnerable	-	-
Pteropus poliocephalus	grey-headed flying-fox	-	Vulnerable	Critical
Rhadinocentrus ornatus	ornate rainbowfish	Not protected	Not protected	High
Rostratula australis	Australian painted snipe	Vulnerable	Vulnerable	-
Sousa chinensis	Indo-Pacific humpback dolphin	Near Threatened	-	Critical
Stagonopleura guttata	diamond firetail	-	-	High
Sternla albifrons	little tern	Endangered	-	High
Thalassarche cauta	shy albatross	Vulnerable	Vulnerable	-
Thalassarche melanophris	black-browed albatross	-	Vulnerable	-
Xeromys myoides	water mouse	Vulnerable	Vulnerable	High

Table 3: Species listed in international agreements

Scientific name	Common name	Bonn	CAMBA	JAMBA	ROKAMBA
Acrocephalus australis	Australian reed-warbler	✓	-	-	-
Actitis hypoleucos	common sandpiper	✓	✓	✓	✓
Anthochaera phrygia	regent honeyeater	-	-	✓	-
Apus pacificus	fork-tailed swift	-	✓	✓	✓
Ardea ibis	cattle egret	-	✓	✓	-
Ardea modesta	eastern great egret	-	✓	✓	-
Ardenna tenuirostris	short-tailed shearwater	-	-	✓	✓
Arenaria interpres	ruddy turnstone	✓	✓	✓	✓
Calidris acuminata	sharp-tailed sandpiper	✓	✓	✓	✓
Calidris alba	sanderling	✓	✓	✓	✓
Calidris canutus	red knot	✓	✓	✓	✓
Calidris ferruginea	curlew sandpiper	✓	✓	✓	✓
Calidris ruficollis	red-necked stint	✓	✓	✓	✓
Calidris tenuirostris	great knot	✓	✓	✓	✓
Caretta caretta	loggerhead turtle	✓	-	-	-
Coracina tenuirostris	cicadabird	-	-	✓	-
Charadrius bicinctus	double-banded plover	✓	-	-	-
Charadrius leschenaultii	greater sand plover	✓	✓	✓	✓
Charadrius mongolus	lesser sand plover	✓	✓	✓	✓
Chelonia mydas	green turtle	✓	-	-	-
Chlidonias leucopterus	white-winged black tern	-	✓	✓	✓
Cuculus optatus	oriental cuckoo	-	✓	✓	✓
Diomedea exulans	wandering albatross	✓	-	✓	-
Dugong dugon	dugong	✓	-	-	-
Egretta sacra	eastern reef egret	-	✓	-	-
Gallinago hardwickii	Latham's snipe	✓	✓	✓	✓
Haliaeetus leucogaster	white-bellied sea-eagle	-	✓	-	-
Hirundapus caudacutus	white-throated needletail	-	✓	✓	✓
Hydroprogne caspia	Caspian tern	-	✓	✓	-

Limicola falcinellus	broad-billed sandpiper	✓	✓	✓	✓
Limosa lapponica	bar-tailed godwit	✓	✓	✓	✓
Limosa limosa	black-tailed godwit	✓	✓	✓	✓
Merops ornatus	rainbow bee-eater	-	-	✓	-
Monarcha melanopsis	black-faced monarch	✓	-	-	-
Myiagra cyanoleuca	satin flycatcher	✓	-	-	-
Numenius madagascariensis	eastern curlew	✓	✓	✓	✓
Numenius minutus	little curlew	✓	✓	✓	✓
Numenius phaeopus	whimbrel	✓	✓	✓	✓
Pandion cristatus	eastern osprey	✓	-	-	-
Plegadis falcinellus	glossy ibis	✓	✓	-	-
Pluvialis fulva	Pacific golden plover	✓	✓	✓	✓
Pluvialis squatarola	grey plover	✓	✓	✓	✓
Rhipidura rufifrons	rufous fantail	✓	-	-	-
Rostratula australis	Australian painted snipe	-	✓	-	-
Sternula albifrons	little tern	✓	✓	✓	✓
Sterna hirundo	common tern	-	✓	✓	✓
Sula dactylatra	masked booby	-	-	✓	✓
Symposiarchus trivirgatus	spectacled monarch	✓	-	-	-
Thalassarche cauta	shy albatross	✓	-	-	-
Thalassarche melanophris	black-browed albatross	✓	-	-	-
Tringa brevipes	grey-tailed tattler	✓	✓	✓	✓
Tringa incana	wandering tattler	✓	✓	✓	✓
Tringa nebularia	common greenshank	✓	✓	✓	✓
Tringa stagnatilis	marsh sandpiper	✓	✓	✓	✓
Xenus cinereus	terek sandpiper	✓	✓	✓	✓

Bonn: Bonn Convention

CAMBA: China–Australia Migratory Bird Agreement

JAMBA: Japan–Australia Migratory Bird Agreement

ROKAMBA: Republic of Korea–Australia Migratory Bird Agreement