

Rinyirru (Lakefield) Aggregation Management Statement 2013

The underlying tenure of this park is Aboriginal freehold land, owned by the Rinyirru (Lakefield) Land Trust. Rinyirru (Lakefield) Land Trust and the Queensland Parks and Wildlife Service (QPWS) jointly manage this park.

Legislative framework

✓	<i>Nature Conservation Act 1992</i>
✓	<i>Environment Protection Biodiversity Conservation Act 1999</i>
✓	<i>Aboriginal Cultural Heritage Act 2003</i>
✓	<i>Queensland Heritage Act 1992</i>

Plans and agreements

✓	Indigenous Management Agreement (IMA) between Rinyirru (Lakefield) Land Trust and State of Queensland for Rinyirru (Lakefield) National Park (Cape York Peninsula Aboriginal Land)
✓	Indigenous Land Use Agreement (ILUA) for Rinyirru (Lakefield) National Park (Cape York Peninsula Aboriginal Land) between Tommy George (Snr), Eric Harrigan (Snr), Elizabeth Lakefield, Francis Lee Cheu, Lewis Musgrave, Hans Pearson and Paul Turpin and State of Queensland
✓	Bonn Convention
✓	China–Australia Migratory Bird Agreement
✓	Japan–Australia Migratory Bird Agreement
✓	Republic of Korea–Australia Migratory Bird Agreement
✓	1999 Burra Charter
✓	Action Plan for Australian Birds 2010
✓	Action Plan for Australian Bats 1999
✓	Action Plan for Australian Marsupials and Monotremes 1996
✓	Action Plan for Australian Rodents 1995

Thematic strategies

✓	Level 2 Draft Pest Strategy
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Park size:	544,000ha national park (Cape York Peninsula Aboriginal Land)
544 088 ha	88ha (resources reserve)
Bioregion:	Cape York Peninsula
QPWS region:	Northern
Local government estate/area:	Cook Shire Council
State electorate:	Cook

Within this document:

- Rinyirru (Lakefield) National Park (Cape York Peninsula Aboriginal Land) and Rinyirru (Lakefield) Resources Reserve are collectively referred to as Rinyirru
- the Lama Lama people, Kuku Thaypan people, Bagaarmugu clan, Mbarimakarranma clan, Muunydiwarra clan, Magarmagarwarra clan, Balnggarwarra clan, Gunduurwarra clan and some related families are collectively referred to as traditional partners.

The traditional partners welcome to country those people who will respect and take care of their land and waters, as well as the native plants and animals. They hope park users enjoy their visit to Rinyirru and return home safely to their families to share the knowledge they gained during their visit.

Vision

The Queensland Parks and Wildlife Service (QPWS) and the traditional partners jointly manage and protect the high diversity of species and habitats including the riverine closed forests, vine thickets, eucalypt-dominated woodlands, native grasslands, saline flats, perennial water bodies, ephemeral lakes and lagoons within Rinyirru (Lakefield) National Park (Cape York Peninsula Aboriginal Land). Together, they protect species of cultural significance such as red-tailed black cockatoo *Calyptorhynchus banksii banksii* and species of ecological significance including the star finch *Neochimia ruficauda clarescens*. Cultural differences between the joint partners are understood and respected, and traditional knowledge is valued and incorporated into park management. Wetlands, rivers, swamps and lagoons are in a healthy condition, and natural grasslands have been maintained with minimal encroachment by woody species. Habitat for the golden-shouldered parrot, star finches, crimson finches, and unique wetland species such as the endangered *Astonia australiensis* has been preserved.

Direction and guidance on the management of cultural sites and places within the park is provided by the traditional partners. Remnants of the park's pastoral history are appropriately documented, interpreted and protected.

Rinyirru offers a diversity of recreational opportunities in a range of landscape settings, and maintains a high regional profile within Cape York Peninsula's tourism market.

Conservation purpose

On 25 October 1979, the original national park area of 528,000ha was gazetted as Lakefield National Park to conserve the richness and high diversity of its wetland types, associated catchment values, the abundant and diverse plant and animal life, and its many cultural values. The scale and diversity of wetland areas within the national park are described by Stanton (1996) as being unsurpassed by those conserved in any other protected area within Queensland.

Subsequent additions to the estate occurred in 1984, 1990, 1993 and 2005 bringing the area of national park to 542,856ha. In 2009 and April 2011, small areas were excised from the national park to allow for road re-alignments, minor boundary corrections and the formation of a resources reserve.

On 30 June 2011, Lakefield National Park and some areas of closed road were transferred to Aboriginal freehold land held by the Rinyirru (Lakefield) Land Trust (land trust). This tenure change acknowledges the major Aboriginal cultural significance of the area and the strong cultural association that the Traditional Owners have with their traditional country.

Rinyirru (Lakefield) National Park (Cape York Peninsula Aboriginal Land) (NP (CYPAL)) and Rinyirru (Lakefield) Resources Reserve were then dedicated over the land. The land trust and QPWS aim to provide best practice joint management of Rinyirru so the lands and culture stay healthy for the benefit of all people.

Protecting and presenting the park's values

Landscape

Rinyirru (Lakefield) NP (CYPAL), Queensland's second largest NP national park, is located on Cape York Peninsula approximately 400km north of Cairns. Extending south from Princess Charlotte Bay, the park occupies the centre of the Laura Basin, which is drained by numerous river systems including the Laura, Normanby, North Kennedy, Morehead and Bizant rivers and their tributaries. These rivers rise in the sandstone escarpment of the Great Dividing Range and flow through the park into Princess Charlotte Bay.

A few isolated remnants of Dalrymple Sandstone occur in the park, namely Jane Table Hill, Walkers Hill and Wards Hill. However, Rinyirru is dominated by gentle rises and alluvial lands. The vegetation changes regularly from south to north, but its southern and inland areas are generally well timbered, while its northern parts are dominated by large treeless plains. Each wet season its extensive network of rivers, creeks and wetlands merge in flood, causing individual watercourses to lose their individual identities.

Stanton (1996) suggests that sedimentation is gradually in-filling Princess Charlotte Bay and that this seaward building of land has influenced the formation of the park's plant communities as a consequence of changing salinity levels and soil depth, up to 20km inland from the shore. The best and most extensive examples of saline flats on Cape York Peninsula can be found in this area.

Perennial water bodies and ephemeral lakes of the area are amongst the best representations of their type on Cape York Peninsula.

The Marina Plains–Lakefield Aggregation is listed in the Directory of Important Wetlands in Australia. The directory identifies recreational use and feral pigs as threats to wetland values. The Princess Charlotte Bay Marine Area, adjacent to the NP (CYPAL), is also listed in the directory.

The headwaters of most rivers within the park are external to the park, and subject to pest plant infestations. Pest plant management is therefore a major issue for park managers. The joint managers need to be vigilant to ensure the water table is not impacted by contaminants or extractive activities, as it is close to the surface in many areas of the park.

Rinyirru was used for pastoral purposes for approximately 100 years prior to gazettal. Cattle grazing still occurs on adjacent areas. Stray stock and feral cattle degrade the natural and cultural values of the NP (CYPAL).

Exploration holes and seismic lines are still evident from the air and the ground.

Regional ecosystems

More than 115 regional ecosystems are mapped within Rinyirru. Many of these are unique variants on the more widespread regional ecosystem types. Fourteen are listed as of concern communities under their biodiversity status (Table 1). The remainder are listed as not of concern at present.

More than half of the regional ecosystem 3.1.2 (low mangrove forest) for Cape York Peninsula occurs on Rinyirru, around Princess Charlotte Bay.

Grassland and open eucalypt woodlands with riparian forests and semi-deciduous vine forests, dominate the vegetation in the park. Scattered communities of *Corypha* and fan palms occur in alluvial areas, alongside the rivers and creeks. Mangrove forest dominates the coastal flats and saltpans in the northern coastal sections, and closed forest and vine thickets occur on the more elevated sandstone areas.

Stanton (1996) identifies the Lakefield coolibah *Eucalyptus acroleuca* woodlands and rosewood *Terminalia oblongata* subsp. *volucris* low closed forests on the NP (CYPAL) as unique. The Lakefield coolibah woodlands are endemic to the Laura Basin. Within the park, they occur on the plains adjacent to the Normanby River. Pigs *Sus scrofa* and various grass pest plants threaten this vegetation community. The only known significant occurrence of the rosewood low closed forests on Cape York Peninsula occurs at the southern extremity of the park, with some minor extension into Olive Vale Pastoral Holding. This vegetation type is associated with depressions. A reduction in pig density and cattle grazing will reduce pest plant invasion and ground disturbance.

General threats to the regional ecosystems include inappropriate fire regimes, pest plants and pest animals, and unsustainable or inappropriate visitor use.

Riparian wetlands generally appear to be in a healthy condition. Highly visited areas, such as camping sites, are however becoming compacted and devoid of vegetation. Pest plants are evident in places, and the movement of cattle and pigs is causing compaction, especially along the watercourses.

Nifold Plain is being encroached by *Melaleuca* spp. Approximately 30 years ago, Nifold Plain extended to the Morehead River; however it now falls 6km short of the Morehead River and 3km short of Saltwater Creek. Park staff believe this may be a consequence of inappropriate fire management; primarily frequent, early burns.

The Orange Plain grassland is being encroached by eucalypts, grader grass *Themeda quadrivalvis* and, to a lesser degree, hyptis *Hyptis suaveolens*. Over the past 30 years, Orange Plain has reduced in size by almost 50%.

Closed forest communities, including vine thickets, are very restricted on the NP (CYPAL). They generally occur on lighter textured soils with a permanent watertable, on levee banks subject to seasonal flooding, in fire-protected areas, on recent beach dune deposits (Stanton, 1996). Ambition Scrub on the southern boundary of the park is an anomaly, as it occurs on heavier soils. These communities are generally in good condition. Threats to these communities include feral cattle *Bos* spp., feral pigs, lion's tail *Leonotis nepetifolia* and hyptis.

Red Lily Lagoon supports a variety of wetland vegetation and an abundance of birdlife, especially magpie geese.

Smart weed poses a major threat to White Lily Lagoon.

Native plants and animals

Rinyirru is currently known to protect 20 animal species and seven plant species of State or national conservation significance (Table 2). The estuarine crocodile *Crocodylus porosus* and 41 bird species recorded from the park are listed in international agreements (Table 3). Several species have specific management actions identified through the following national action plans:

- 1996 Action Plan for Australian Marsupials and Monotremes – northern quoll *Dasyurus hallucatus*
- Action Plan for Australian Bats 1999 – spectacled flying-fox *Pteropus conspicillatus*
- Action Plan for Australian Rodents 1995 – Lakeland Downs mouse *Leggadina lakedownensis*; and
- Action Plan for Australian Birds 2000 – red goshawk *Erythrotriorchis radiatus*, little tern *Sternula albifrons*, radjah shelduck *Tadorna radjah*, palm cockatoo *Probosciger aterrimus*, black-necked stork *Ephippiorhynchus asiaticus*, rufous owl (Cape York subspecies) *Ninox rufa meesi*, masked owl (northern subspecies) *Tyto novaehollandiae kimberli*; Gouldian finch *Erythrura gouldiae*, sarus crane *Grus antigone*, Latham's snipe *Gallinago hardwickii*, crimson finch (white-bellied subspecies) *Neochmia phaeton evangelinae*, golden-shouldered parrot *Psephotus chrysopterygius*, square-tailed kite *Lophoictinia isura*, cotton pygmy goose *Nettapus coromandelianus* and golden-backed honeyeater *Melithreptus gularis laetior*.

Many elements of Rinyirru's fauna, including some threatened species, have populations along the shores of Princess Charlotte Bay that appear to be isolated populations of those on the western coast of Cape York Peninsula. Away from the coast little is threatened, and the fauna and flora is representative of biota that are widespread through the peninsula savannas. (Freeman and Garnett, 2003)

Rinyirru contains the largest remaining population of crimson finch (white-bellied) in Australia. The subspecies inhabits grasses and similar vegetation close to fresh water. Rubbervine poses a threat to its habitat. The northern part of Rinyirru contains the largest population of star finch (Cape York Peninsula) *Neochimia ruficauda clarescens* remaining, with the only other being on the west coast near Pormpuraaw. Feral pigs and cattle impact grasslands where this subspecies occurs.

Estuarine crocodiles *Crocodylus porosus* inhabit waterways and billabongs throughout Rinyirru. Freeman and Garnett (2003) state that Rinyirru contains the best crocodile breeding habitat remaining on the east coast of Australia.

The grass *Coix gasteeni* has a localised distribution. It is only known from Cabbage Tree Creek on Rinyirru, and the Normanby River Crossing on Battlecamp Road.

Stylidium longissimum occurs on the road to Marina Plains in melaleuca woodland. This represents a significant range extension, as the only other records for this species are from Cape Melville.

Known traditional totem species are listed in Table 4. These species are of cultural significance to the traditional partners. Any activity involving these species is considered a significant activity and needs approval from the land trust.

Inappropriate fire regimes, pest plants and pest animals pose the greatest threat to the native plant and animal species on the park.

Aboriginal culture

Rinyirru contains numerous places of Aboriginal cultural significance associated with occupation, ceremonies and stories of ancestral spirits. Examples of places of cultural significance include Hann and Kalpowar crossings, Jane Table Hill. A number of these sites and places are currently open to public visitation.

Jane Table Hill and Low Lake were declared as Restricted Access Areas to protect places of particular cultural significance, on 24 February 2004 and 9 December 2004 respectively.

A formal exclusion agreement between the Lama Lama Traditional Owners and QPWS was developed to limit access to the former Bizant ranger base and grounds.

On 29 August 2008, a lease over the NP (CYPAL) was granted under section 34 of the *Nature Conservation Act 1992* to the Kuku Thaypan people for a living area/outstation at Saxby waterhole.

Information about the location and value of Aboriginal cultural heritage places was collected by and from relevant knowledgeable Aboriginal Traditional Owners, and documented in 1994. Not all places of material or spiritual significance to the traditional partners were recorded at that time.

Some places of cultural significance have not been visited for a long time. Knowledge will improve as Traditional Owners spend more time back on country.

Shared history culture

The area is rich in European cultural heritage, associated with early explorers, geologists and surveyors, and tangible links to the establishment of the Palmer Goldfields and early cattle industry.

Lakefield was selected as a grazing property around 1878 and was associated with the cattle industry for almost a century before its gazettal as national park in 1979. The Aboriginal people contributed significantly to the success of the industry. Remnants of Rinyirru's pastoral heritage exist in the form of old yards, dips, internal fence lines, grave sites, and numerous old buildings and items of old machinery. Most of these have been documented by Pearce (2000).

Early explorers, geologists and surveyors traversed the area in the mid-to-late 1800s during the gold rush at Palmer River. In 1872, William Hann crossed the North Kennedy River at the site now known as Hann Crossing.

Parts of the Old Laura homestead date back to 1892. After the Laura and Lakefield stations were purchased by the Lakefield Cattle Company, the Old Laura homestead was abandoned in favour of New Laura, located about 24km north. In 1986 the Old Laura homestead and out buildings were restored to their present condition during *Operation Raleigh*, a cooperative project undertaken by QPWS and the National Trust.

The Old Laura homestead is currently in fair-to-poor condition. It has sustained termite damage. The building was heritage-listed on 28 July 2000, so maintenance must be consistent with construction techniques from its era. Due to competing responsibilities, QPWS staff have rarely undertaken inspections or maintenance of the buildings.

An outstation at Breeza, 20km north of the current Lakefield ranger base, was used for horse and cattle breeding and cattle fattening. It became a mustering outstation and stop over point for the pack-horse mail run to Coen after its abandonment in the 1890s. Remnants of the site's past use still remain today, including the tin shack, two grave sites and numerous mango trees. The tin hut has active termite damage.

The old Lakefield House and associated buildings are in varying states of repair. The original house is in poor condition, is contaminated by asbestos and has started to fall down. In 1960, half of the workshop was converted into a house, now known as the long house, and used as a residence when the station owners moved out of the main house. The long house was initially used as residence by park staff, until new accommodation was built. The building is now used by itinerant staff working on the park. In the mid to late 1960s, one of the station houses was converted to a ranger's barracks, and is still used today.

Tourism and visitor opportunities

Rinyirru (Lakefield) NP (CYPAL) can be accessed from Cooktown via Battle Camp Road, or from Laura and Musgrave via the Peninsula Development Road. The park is a remote area and visitors need to be self-sufficient. There are no all-weather roads within the NP (CYPAL) and access is restricted to the dry season. During the wet season (usually December to May, depending on seasons), the park and gazetted roads are closed to vehicle-based public access.

The NP (CYPAL) receives approximately 11,500 visitors per year. More than 85% of visitors are independent campers, using the park to fish. Other recreational activities undertaken in the NP (CYPAL) include boating, birdwatching, touring and sight-seeing, exploring, visiting pastoral history buildings and sites, and crocodile spotting. The park is a popular destination for groups of males having a 'boys weekend' and birdwatching groups. Visits to the park by grey nomads are increasing with improved road conditions. Cycling to and within the park is also a growing trend.

Numerous commercial operators have permits to conduct commercial activities in the NP (CYPAL), principally in the form of safari, tag-a-long and motorcycle tours. Commercial camping is permitted at Kalpowar Crossing, Hann Crossing and Twelve Mile Lagoon. Organised groups, such as four-wheel-drive clubs, schools and fishing clubs, intermittently use the park for recreational and educational purposes. Each year, Rinyirru is used for a local fishing competition.

Traditional Owners use the park to camp, fish and hunt. They primarily use areas away from key visitor use sites, including the Bizant and Saxby living areas.

Peak visitor use occurs at the start and end of the barramundi season. Mid-year long weekends and school holidays are also very popular visitor periods. Some visitors stay overnight, but most camp for two to three nights. Those staying for longer periods usually rotate between campsites in their direction of travel.

Four-wheel drive vehicles and motorcycles are most commonly used to access the park. However, due to improved road conditions, more conventional vehicles are now accessing the park. There is also a growing trend in the number of vehicles towing trailers and caravans.

The NP (CYPAL) has more than 100 individual campsites within 24 camping areas. Camping areas range from secluded sites near scenic waterholes to large camp sites on river banks and at major river crossings. Hann Crossing and Kalpowar Crossing have toilet facilities. The latter also has shower facilities and an interpretation shelter. Visitor impacts, such as erosion, compaction and pest plant infestations, are evident at some camp sites.

Popular day-use sites within the NP (CYPAL) include Old Laura homestead, Breeza, Red and White Lily lagoons, Nifold Plain and Low Lake. Several Aboriginal story places, such as Low Lake, Kalpowar Crossing, Hann Crossing, are open to the public.

Mesh has been installed around the bottom level of the Old Laura homestead to prevent access. This is largely successful, however there are occasional incidents of people entering the house. Some items, such as photographs, have been stolen from the homestead.

Nifold Plain is an iconic visitor destination in Rinyirru's north that is a good spot for viewing sunsets and star finch. Despite the popularity of the site, no viewing location to maximise visitor appreciation of the picturesque plain has been formalised.

The walkway to Red Lily Lagoon was damaged by fire in 2011, but has been repaired and interpretive signs have been installed. Pest plant and pig damage is evident at this site.

Most park users stay on vehicle tracks and roads when exploring Rinyirru; however some visitors access restricted access areas designated to protect culturally sensitive places and other areas not open to the public.

A 4km walking track is located at Kalpowar Crossing, but it is not aligned to showcase the area's natural values and many pest plants are evident along its length.

Cook Shire Council has recently concreted a causeway over Hann Crossing to improve access through the park. This will allow for increased travel speed in this location, and may detract from the rough, bush experience some visitors seek when visiting Rinyirru.

Rinyirru's flora, fauna and vegetation communities are extremely diverse. Park managers are exploring opportunities to better present this diversity.

Existing interpretive materials were developed prior to the commencement of joint management arrangements and lack input and guidance from the traditional partners.

Cultural tourism

Opportunities exist for the traditional partners to invest or participate in businesses which offer cultural experiences within Rinyirru, including tours aimed at improving understanding and appreciation of traditional cultural practices and protocols.

Education and science

Knowledge gained from research and monitoring programs is an integral part of adaptive park management. The collation of existing information and conduct of ongoing monitoring and survey work improves knowledge for joint management and guides future park management and best-practice conservation management.

The application and success of different methods of pig management on Rinyirru is of educational and research interest to QPWS, the traditional partners, other government departments, research institutions, and land managers in general.

Australian Quarantine and Inspection Service (AQIS) undertake regular sampling of pig populations on Rinyirru.

Research projects involving totem species, or accessing places of cultural significance, need the approval of the Rinyirru (Lakefield) Land Trust.

Partnerships

QPWS and the Rinyirru (Lakefield) Land Trust are working together to train land trust members so they can jointly deliver day-to-day management activities, including fire and pest management.

Park staff and the land trust maintain working relationships with neighbouring landholders, state and local government agencies, local catchment groups and other stakeholder's to ensure the values of the NP (CYPAL) are managed appropriately.

Where possible, fire and pest management activities are coordinated with park neighbours, and emergency response activities in conjunction with emergency departments.

Other key issues and responses

Pest management

Pest plants

Pest plant species pose a serious threat to the park's natural environment, and ongoing vigilance is required to ensure they are adequately controlled.

Major pest plant species on Rinyirru are olive hymenachne *Hymenachne amplexicaulis* (Class 2, Weed Of National Significance (WONS)), rubbervine *Cryptostegia grandiflora* (Class 2, WONS), sicklepod *Senna obtusifolia* (Class 2) and lantana *Lantana camara* (Class 3, WONS); and the environmental pest plants lion's tail, senna *Senna siamea*, hyptis *Hyptis suaveolens* and bauhinia *Bauhinia monandra*. Gamba grass *Andropogon gayanus* (Class 2) is not currently known from the park, but occurs on surrounding properties and is of management concern.

Hymenachne was detected on Rinyirru in February 2011 and has been recorded from isolated swamps primarily in close proximity to the Lakefield ranger base; including Circular Swamp, Red Lily Lagoon and Goose Swamp. It occurs in varying densities from scattered plants to mats of the pest plants. QPWS staff have mapped infestations across the park and commenced an intensive treatment program.

Rubbervine is significantly impacting riparian areas at Two Mile, Annie River and Saltwater Creek, where it is climbing trees and overtaking and smothering vegetation, and influencing fire regimes. It is also known from Twelve Mile and various spots in Princess Charlotte Bay.

Sicklepod occurs in small, very dense patches near Old Laura homestead, along the Normanby River and around the Lakefield ranger base. If this pest plant is not treated strategically it is likely that it will continue to spread.

Grader grass is found primarily along road edges, some firebreaks and internal tracks, and in a small area on Nifold Plain. Where it grows it forms very dense infestations and out-competes native species. Burning programs are likely to be significantly increasing grader grass populations, as fire promotes the grader grass.

Hyptis and lion's tail occur throughout the park in varying densities. Pest management activities are focussing on containing existing populations of lion's tail. Hyptis is very competitive, and not considered to be treatable.

Bauhinia grows at Breeza and Old Laura. Control efforts are significantly reducing these infestations. QPWS staff believe active and ongoing control of known bauhinia, lantana and *Senna siamea* infestations will significantly reduce, and potentially eradicate, these species from Rinyirru.

Pest plants occur primarily along access tracks and in other disturbed areas. They are spread by vehicles and machinery, and pest animals. Park staff wash down vehicles and machines used to conduct pest plant management or track and campground maintenance activities. Despite applying pest plant hygiene measures, they are finding it difficult to minimise pest plant spread, as they often need to travel through infestations of one species to treat another species.

Pest animals

Feral pigs *Sus scrofa* occur in large numbers throughout the park, and are commonly observed during park patrols and aerial activities. Pig impacts are evident around swamps and other water bodies, where they dig up large areas of soil, eat the bulbs of water lilies and turtle eggs. Their activities create disturbed environments where pest plants flourish.

Given the park's vast size and seasonal access limitations, aerial shooting and baiting programs are strategically used to manage pigs on Rinyirru, with a focus on areas of high conservation value. In these areas, lower numbers are starting to be observed, and the degree of disturbance has reduced. The pig exclusion fencing constructed around Red Lily Lagoon failed in late 2010, and pig damage is now evident at this site. The fence has recently been repaired.

Branded and unbranded cattle occur on Rinyirru. They degrade wetlands, introduce pest plants, change the structure of vegetation, and form deep pads along fence lines and in places where they enter and exit watering points. Cattle also present a danger to park users and staff. They are damaging fences around the Lakefield residences and have rubbed up against the New Laura house and poked holes in the wall. In 2011, work started to de-stock the park and upgrade the boundary fence to a stock-proof condition. Ongoing and sustained vigilance will be required to maintain Rinyirru free of stock.

Feral cats *Felis catus* are occasionally seen on Rinyirru; most commonly at night. No current trapping or research is undertaken to control or learn about this pest. Incidental shooting results indicate that feral cats exist in large numbers on the park. For example, approximately four to five years ago, 10 cats were taken per night over a period of a fortnight.

Fire management

Most of the vegetation on Rinyirru is fire-dependent. Planned burns are conducted at Rinyirru to reduce hazards, protect life and property, maintain the ecological integrity of vegetation communities, enhance essential habitat for significant species and aid in the control of pest plant and animal species.

High intensity fires have impacted the edges of vine thickets at Ambition Scrub and between Goose Swamp and Circular Swamp. Lion's tail and hyptis are now evident in these areas.

Burns conducted too frequently or too early in the fire season are thought to be causing woody thickening of native grasslands areas, including Nifold Plain and Orange Plain, and around swamps, such as Mick Fienn and Twelve Mile waterholes. Weed growth has been promoted in many of these areas and also along roadsides.

Late season, hot fires and early storm burns are being trialled to control pest plants such as lion's tail, sicklepod and hyptis.

A number of formal SAVMON (Savanna Monitoring) plots, which include fixed photo monitoring points, have been installed on Rinyirru to measure vegetation change in association with fire management.

Other management issues

Park management infrastructure

Due to the large size of the park, Rinyirru is managed from two ranger bases at Lakefield and New Laura. A substantial number of buildings are located at these sites.

Almost 350km of boundary fence needs to be installed, replaced or repaired to make the park stock-proof. Some old internal fences have been removed. Most old pastoral roads still exist within Rinyirru.

A number of airstrips are located on the park. The Lakefield strip is the only serviceable airstrip, and is used to assist with park operations such as aerial burning, shooting and spraying activities.

Gazetted road reserves managed by Cook Shire Council fragment the park. Internal access tracks are managed and maintained by the joint partners.

Transport and utility corridor

The width of the gazetted roads which traverse Rinyirru are gradually increasing as road standards improve. Poorly drained areas are eroding, increasing sedimentation in some watercourses and stopping or altering the flow of water in some locations.

Water is used by Cook Shire Council during road maintenance activities. The demand for water to maintain the roads has increased as road standards have improved. The long-term sustainability of this practice is unknown.

Access tracks to gravel and water extraction sites have created visual scars on the landscape, and are considered to be larger than required. Potential exists for the high water table to be impacted where holes are dug for water extraction purposes.

Monitoring of on ground activities is essential to ensure continued cultural and environmental compliance into the future.

Safety

Rinyirru presents many safety hazards for park visitors and managers, including the potential for interaction with dangerous wildlife such as crocodiles. Campsites have been designed to protect campers from crocodiles, but the risk varies depending on water levels. A number of incidents, including one fatality, have occurred within Rinyirru. Risk assessments have been undertaken at some campsites or day-use areas.

Information brochures highlight general hazards presented by the natural environment. Warnings and information about crocodile hazards are also highlighted on information boards and signs within the NP (CYPAL).

On average, less than five vehicle incidents per annum occur on roads which traverse or pass through the park. Vehicle speed is increasing as the standard of road improves. It is likely that the number of vehicle incidents will increase as the amount of vehicle traffic increases.

Many people seek access to remote areas. The level of visitor preparedness appears to be improving as park staff report that less people are seeking staff assistance. Many park users travel with other visitors and can provide assistance to each other.

References

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Management directions

Desired outcomes	Actions and guidelines
<p>Landscape</p> <p>The health, diversity and integrity of regional ecosystems is maintained across the landscape.</p>	<p>A1. Maintain habitat heterogeneity and ecosystem health through appropriate burning regimes and pest programs.</p> <p>A2. Liaise with relevant catchment groups with respect to the control of pest plants external to the park, especially with respect to species that have the potential to significantly impact on the park's wetland values.</p>
<p>Native plants and animals</p> <p>Species of conservation significance and ecosystems with a restricted distribution are protected from threats.</p>	<p>A3. Focus management on species and ecosystems that have a limited distribution and are currently threatened by human impacts, fire or pests such as finch species.</p>
<p>Aboriginal culture</p> <p>The Rinyirru (Lakefield) Land Trust and QPWS have a strong and positive collaborative working relationship, built on trust and respect for each other's knowledge and responsibilities.</p> <p>Places and species of cultural significance are appropriately protected and presented.</p>	<p>A4. Manage Rinyirru to ensure the responsibilities, interests and aspirations of the traditional partners are acknowledged and respected in day-to-day management.</p> <p>A5. Develop a cultural heritage management strategy for Rinyirru to ensure the protection of Aboriginal cultural heritage values, based on knowledge of cultural heritage places on the park, their significance and consequent management needs.</p> <p>A6. Further strengthen joint management relationships with the land trust by:</p> <ul style="list-style-type: none"> • cooperatively developing protocols for various park management activities in accordance with the Indigenous Management Agreement for the park • supporting the investigation of possible commercial tourism, employment and business opportunities for the traditional partners • supporting the recording of cultural values in a form agreeable to the traditional partners • providing opportunities for cultural interpretation on and off park.
<p>Shared-history culture</p> <p>Places of heritage significance are appropriately protected and presented or allowed to decay where appropriate.</p>	<p>A7. Identify and record shared-history cultural heritage places within the QPWS ParkInfo database, including documentation of their significance (if known); and use this information to help set priorities for the management of heritage places and structures.</p> <p>A8. Seek funding to restore Old Laura homestead.</p> <p>A9. Allow sites and places of shared-heritage significance with no feasible management use or other significance to deteriorate naturally over time.</p>

Desired outcomes	Actions and guidelines
<p>Tourism and visitor opportunities</p> <p>Rinyirru (Lakefield) NP (CYPAL) offers a range of sustainable recreational opportunities which are consistent with the character of the park and protect and showcase its natural and cultural values.</p>	<p>A10. Develop a visitor management strategy for the NP (CYPAL) in cooperation with the traditional partners, the local community, park neighbours, relevant government organisations and other interest groups that will:</p> <ul style="list-style-type: none"> • revise existing visitor facilities and explore the potential to expand or develop new recreational opportunities within the park (e.g. new walking tracks, cycling routes, viewing platforms and camping areas located for birdwatching and nature appreciation rather than fishing) • revise existing interpretive materials, and identify future needs in relation to signage, brochures and public contact activities • ensure the scale of development and facilities provided within camping and day-use areas is setting-appropriate, and managed at a sustainable level • nurture partnerships with Cook Shire Council and the tourism industry to ensure marketing accurately reflects access conditions, park facilities and recreational opportunities • provide for the monitoring and assessment of visitor impacts—and identify strategies to ensure high-quality recreational opportunities can be sustained in the long term. <p>A11. Maintain or improve visitor services and facilities in accordance with the visitor management strategy.</p> <p>A12. Support the land trust exploring and developing cultural tourism opportunities within the park and on their surrounding lands.</p> <p>A13. Work with the land trust to protect places of particular cultural significance through the mechanisms such as the declaration of Restricted Access Areas for cultural protection purposes.</p> <p>A14. Increase patrols and on ground management presence during peak visitation periods to minimise inappropriate visitor behaviour.</p> <p>A15. Emphasise the hazards and risks presented by the natural environment, and the need for visitors to be self-sufficient and take appropriate precautions before and during park visits in written materials relating to the park.</p>
<p>Education and science</p> <p>Research and monitoring programs increase understanding of park values and provide information to improve management decisions.</p>	<p>A16. Identify information gaps and natural and cultural research opportunities for the park.</p> <p>A17. Support research activities where demonstrated benefits to the management of the NP (CYPAL) exist.</p>
<p>Partnerships</p> <p>Relationships with neighbours are maintained and collaborative management occurs across the landscape.</p>	<p>A18. Maintain good working relations with neighbouring landholders and local authorities to manage pest plants and erosion along roads adjacent to the NP (CYPAL), especially where they threaten the NP (CYPAL) and Princess Charlotte Bay.</p> <p>A19. Where possible, coordinate pest and fire management activities with those being undertaken by park neighbours, catchment groups, other government departments and local authorities.</p>

Desired outcomes	Actions and guidelines
<p>Pest management</p> <p>The integrity of native plant and animal communities is maintained by coordinating pest management across the landscape.</p>	<p>A20. Identify threatened habitats, establish their relative importance to conservation significant species and use this information to help set priorities for pest management.</p> <p>A21. Focus vertebrate pest control activities on essential habitat areas such as riparian corridors, lagoons and natural grasslands, with particular emphasis on feral pigs and feral cattle.</p> <p>A22. Complete boundary fencing and remove cattle to reduce the impacts of stray stock wandering on the park. Maintain the Red Lily Lagoon exclusion fence in a pig-proof condition, and consider constructing similar exclusion fences around other sites of ecological, recreation or cultural significance.</p> <p>A23. Focus pest plant management around visitor sites such as campgrounds, day-use areas and transport corridors, with particular emphasis on eradicating olive hymenachne infestations where possible.</p>
<p>Fire management</p> <p>The integrity of native plant and animal communities is maintained through strategic, sustained fire management.</p>	<p>A24. Develop and implement a Level 2 Fire Strategy for Rinyirru.</p> <p>A25. Minimise impacts from late season, large-scale and high intensity fires by implementing suitable fire regimes with relation to the frequency, intensity and timing of burns for natural communities and populations within the park.</p> <p>A26. Minimise melaleuca and eucalypt encroachment into natural grasslands by using fire appropriately to remove woody regrowth and prevent thickening.</p> <p>A27. Use low intensity perimeter burns to protect margins of vine thickets and other fire sensitive communities.</p>
<p>Extractive activities</p> <p>Gravel and water extraction activities are formalised and managed to protect the natural and cultural resources.</p>	<p>A28. Continue to liaise with Cook Shire Council to ensure cultural and environmental compliance of on-ground extractive activities.</p>

Tables – Conservation values management

Table 1: Of concern regional ecosystems

Regional ecosystem number	Description	Biodiversity status
3.1.4	<i>Excoecaria agallocha</i> ± <i>Aegiceras corniculata</i> closed scrub. Upper tidal reaches of rivers	Of concern
3.10.5a	Deciduous notophyll/microphyll vine thicket ± <i>Gyrocarpus americanus</i> on sandstone hills	Of concern
3.2.10a	<i>Eucalyptus tetradonta</i> , <i>Corymbia clarksoniana</i> ± <i>E. brassiana</i> or <i>Erythrophleum chlorostachys</i> woodland on stabilised dunes	Of concern
3.2.13	Evergreen notophyll vine forest on beach ridges on the east coast	Of concern
3.2.16	<i>Melaleuca viridiflora</i> ± <i>Terminalia muelleri</i> low woodland on old beach ridges	Of concern
3.2.25	Sparse herbland of mixed herbaceous species on foredunes and beach ridges	Of concern
3.3.34	<i>Corypha utan</i> open woodland on alluvial plains and old beach ridges in Lakefield National Park	Of concern
3.3.40a	<i>Terminalia</i> sp. deciduous vine thicket in depressions in Lakefield area	Of concern
3.3.66 (a, b)	Permanent lakes and lagoons, frequently with fringing woodlands or sedgeland	Of concern
3.3.67	<i>Melaleuca arcana</i> low open forest in swamps (needs verifying)	Of concern
3.5.17 (a, b)	<i>Melaleuca stenostachya</i> ± <i>M. viridiflora</i> low open woodland on flat plains	Of concern
3.7.1	Semi-deciduous notophyll/microphyll vine thicket on isolated lateritic hillslopes	Of concern
3.9.6	<i>Terminalia aridicola</i> var. <i>chillagoensis</i> , <i>T. platyphylla</i> open woodland on clay soils	Of concern
3.9.8b	<i>Heteropogon triticeus</i> , <i>Themeda arguens</i> , <i>Saga plumosum</i> var. <i>plumosum</i> closed tussock grassland on plains	Of concern

Table 2: Species of state or national conservation significance

Scientific name	Common name	Nature Conservation Act 1992 status	Environment Protection and Biodiversity Conservation Act 1999 status	Back on Track status
Plants				
<i>Astonia australiensis</i>		Endangered		Medium
<i>Coix gasteenii</i>		Endangered		Low
<i>Carmona retusa</i>		Vulnerable		Low
<i>Dendrobium bigibbum</i>	Cooktown orchid	Vulnerable	Vulnerable	High

Scientific name	Common name	Nature Conservation Act 1992 status	Environment Protection and Biodiversity Conservation Act 1999 status	Back on Track status
<i>Acacia armitii</i>		Near threatened		Low
<i>Albizia retusa</i> subsp. <i>retusa</i>		Near threatened		Low
<i>Polygala pycnophylla</i>		Near threatened		Low
Animals				
<i>Psephotus chrysopterygius</i>	golden-shouldered parrot	Endangered	Endangered	Critical
<i>Erythrura gouldiae</i>	Gouldian finch	Endangered	Endangered	Medium
<i>Erythrotriorchis radiatus</i>	red goshawk	Endangered	Vulnerable	High
<i>Neochmia phaeton evangelinae</i>	crimson finch (white-bellied subspecies)	Endangered	Vulnerable	High
<i>Sternula albifrons</i>	little tern	Endangered		High
<i>Tyto novaehollandiae kimberli</i>	masked owl (northern subspecies)	Vulnerable	Vulnerable	Low
<i>Crocodylus porosus</i>	estuarine crocodile	Vulnerable		Low
<i>Accipiter novaehollandiae</i>	grey goshawk	Near threatened		Low
<i>Aerodramus terraereginae</i>	Australian swiftlet	Near threatened		Low
<i>Ephippiorhynchus asiaticus</i>	black-necked stork	Near threatened		Low
<i>Erythrura trichroa</i>	blue-faced parrot-finch	Near threatened		Low
<i>Lophoictinia isura</i>	square-tailed kite	Near threatened		Low
<i>Melithreptus gularis</i>	black-chinned honeyeater	Near threatened		Low
<i>Melithreptus gularis laetior</i>	golden-backed honeyeater	Near threatened		Low
<i>Nettapus coromandelianus</i>	cotton pygmy-goose	Near threatened		Low
<i>Ninox rufa meesi</i>	rufous owl (Cape York subspecies)	Near threatened		Low
<i>Numenius madagascariensis</i>	eastern curlew	Near threatened		Low
<i>Probosciger aterrimus</i>	palm cockatoo	Near threatened		Low
<i>Tadorna radjah</i>	radjah shelduck	Near threatened		Low
<i>Dasyurus hallucatus</i>	northern quoll	Least concern	Endangered	Medium

Table 3: Species listed in international agreements

Family	Scientific name	Common name	BONN	CAMBA	JAMBA	ROKAMBA
Charadriidae	<i>Charadrius leschenaultii</i>	greater sand plover	✓	✓	✓	✓
Charadriidae	<i>Charadrius mongolus</i>	lesser sand plover	✓	✓	✓	✓
Charadriidae	<i>Pluvialis fulva</i>	Pacific golden plover	✓	✓	✓	✓
Scolopacidae	<i>Actitis hypoleucos</i>	common sandpiper	✓	✓	✓	✓
Laridae	<i>Sternula albifrons</i>	little tern	✓	✓	✓	✓
Scolopacidae	<i>Calidris acuminata</i>	sharp-tailed sandpiper	✓	✓	✓	✓
Scolopacidae	<i>Calidris alba</i>	sanderling	✓	✓	✓	✓
Scolopacidae	<i>Calidris ferruginea</i>	curlew sandpiper	✓	✓	✓	✓
Scolopacidae	<i>Calidris ruficollis</i>	red-necked stint	✓	✓	✓	✓
Scolopacidae	<i>Gallinago hardwickii</i>	Latham's snipe	✓	✓	✓	✓
Scolopacidae	<i>Limosa lapponica</i>	bar-tailed godwit	✓	✓	✓	✓
Scolopacidae	<i>Limosa limosa</i>	black-tailed godwit	✓	✓	✓	✓
Scolopacidae	<i>Numenius madagascariensis</i>	eastern curlew	✓	✓	✓	✓
Scolopacidae	<i>Numenius minutus</i>	little curlew	✓	✓	✓	✓
Scolopacidae	<i>Numenius phaeopus</i>	whimbrel	✓	✓	✓	✓
Scolopacidae	<i>Tringa glareola</i>	wood sandpiper	✓	✓	✓	✓
Scolopacidae	<i>Tringa nebularia</i>	common greenshank	✓	✓	✓	✓
Scolopacidae	<i>Tringa stagnatilis</i>	marsh sandpiper	✓	✓	✓	✓
Scolopacidae	<i>Xenus cinereus</i>	terek sandpiper	✓	✓	✓	✓
Apodidae	<i>Apus pacificus</i>	fork-tailed swift		✓	✓	✓
Apodidae	<i>Hirundapus caudacutus</i>	white-throated needletail	-	✓	✓	✓
Cuculidae	<i>Cuculus optatus</i>	oriental cuckoo	-	✓	✓	✓
Glareolidae	<i>Glareola maldivarum</i>	oriental pratincole	-	✓	✓	✓
Laridae	<i>Chlidonias leucopterus</i>	white-winged black tern		✓	✓	✓
Charadriidae	<i>Charadrius veredus</i>	oriental plover	✓	-	✓	✓
Scolopacidae	<i>Calidris melanotos</i>	pectoral sandpiper	✓		✓	✓
Threskiornithidae	<i>Plegadis falcinellus</i>	glossy ibis	✓	✓	-	-

Family	Scientific name	Common name	BONN	CAMBA	JAMBA	ROKAMBA
Ardeidae	<i>Ardea ibis</i>	cattle egret	-	✓	✓	-
Ardeidae	<i>Ardea modesta</i>	eastern great egret	-	✓	✓	-
Laridae	<i>Hydroprogne caspia</i>	Caspian tern	-	✓	✓	
Laridae	<i>Sterna sumatrana</i>	black-naped tern	-	✓	✓	-
Campephagidae	<i>Coracina tenuirostris</i>	cicadabird	-	-	✓	-
Meropidae	<i>Merops ornatus</i>	rainbow bee-eater	-	-	✓	-
Accipitridae	<i>Haliaeetus leucogaster</i>	white-bellied sea-eagle	-	✓	-	-
Gruidae	<i>Grus antigone</i>	sarus crane	-	✓	-	-
Accipitridae	<i>Pandion cristatus</i>	eastern osprey	✓	-	-	-
Acrocephalidae	<i>Acrocephalus australis</i>	Australian reed-warbler	✓	-	-	-
Monarchidae	<i>Monarcha melanopsis</i>	black-faced monarch	✓	-	-	-
Monarchidae	<i>Myiagra cyanoleuca</i>	satin flycatcher	✓	-	-	-
Monarchidae	<i>Symposiarchus trivirgatus</i>	spectacled monarch	✓	-	-	-
Rhipiduridae	<i>Rhipidura rufifrons</i>	rufous fantail	✓	-	-	-
Crocodylidae	<i>Crocodylus porosus</i>	estuarine crocodile	✓	-	-	-

BONN – Bonn Convention

CAMBA – China–Australia Migratory Bird Agreement

JAMBA – Japan–Australia Migratory Bird Agreement

ROKAMBA – Republic of Korea–Australia Migratory Bird Agreement

Table 4: Key totem species currently known for the Rinyirru traditional partners

Common name	Scientific name	Traditional names and pronunciations
coastal taipan	<i>Oxyuranus scutellatus</i>	ee-lie
eagle (brown and white)	To be determined	
estuarine crocodile	<i>Crocodylus porosus</i>	
dingo	<i>Canis lupus dingo</i>	
brahminy kite	<i>Haliastur indus</i>	
owl	To be determined	
crayfish	To be determined	
sulphur-crested cockatoo	<i>Cacatua galerita</i>	
red-tailed black cockatoo	<i>Calyptorhynchus banksii banksii</i>	

Source: Traditional names derived from the traditional partners