Department of Environment, Science and Innovation

Chillagoe-Mungana Caves National Park

Management Statement

2013

Queensland Government

Prepared by: **Queensland Parks & Wildlife Service (QPWS), Department of Environment, Science and Innovation** © State of Queensland 2024

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

The department is committed to respecting, protecting, and promoting human rights, and our obligations under the Human Rights Act 2019.

This management statement does not intend to affect, diminish, or extinguish native title or associated rights.

Disclaimer
All due diligence and care has been taken in the preparation of this document based on the information in the 2013 management statement. The department holds no responsibility for any errors or omissions within this document. Any decisions made by other parties based on this document are solely the responsibility of those parties.

The Chillagoe-Mungana Caves National Park Management Statement 2013 has been extended in 2024 in line with the Queensland *Nature Conservation Act 1992* (s120G). Minor amendments have been made. There has been no change to the statement's original management intent and direction.

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Park size:	3,575ha
Bioregion:	Einsaleigh Uplands
QPWS region:	Northern
Local government estate/area:	Tablelands Regional Council
State electorate:	Cook

Legislative framework

✔	*Aboriginal Cultural Heritage Act 2003*
✔	*Environment Protection and Biodiversity Conservation Act 1999* (Cwlth)
✔	*Nature Conservation Act 1992*
✔	*Queensland Heritage Act 1992*

Plans and agreements

✔	*Action Plan for Australian Bats*
✔	*Action Plan for Australian Birds 2000*
✔	*Action Plan for Australian Marsupials and Monotremes(1996)*
✔	Bonn Convention
✔	Burra Charter 1999
✔	China–Australia Migratory Bird Agreement
✔	Japan–Australia Migratory Bird Agreement
✔	Republic of Korea–Australia Migratory Bird Agreement

Thematic Strategies

✔	Level 2 Fire Strategy
✔	Pest Management Action Plan

Vision

Chillagoe–Mungana Caves National Park will continue to be managed to conserve the diversity and integrity of its landscapes, in particular the limestone and granite outcrops which support patches of deciduous vine thicket, its dry tropical woodlands and its narrow riparian corridors.

The Ramparts section continues to be managed and promoted as the gateway to the park.

Where appropriate, visitors are provided guided or non-guided access to the caves.

Safe access is provided to the Chillagoe Smelters so visitors can learn about the significance of the site's mining and industrial heritage.

Conservation purpose

In 1940 the original areas of Chillagoe–Mungana Caves National Park were gazetted as scenic reserves. A series of amalgamations and additions have occurred since their gazettal. Further boundary rationalisation is required to resolve ongoing management issues in areas where specific local values are not currently fully conserved.

Many of the limestone towers within the park are cavernous. The Queensland Parks and Wildlife Service (QPWS) offers guided tours of these spectacular cave systems to improve understanding and appreciation by park visitors.

In December 1998, the Chillagoe Smelters area was converted from resources reserve to national park so the site's historical values could be appropriately protected and presented.

Protecting and presenting the park's values

Landscape

Chillagoe–Mungana Caves National Park lies within a belt of limestone which extends south of Chillagoe and north-west of the Walsh River. Over long periods of geological time, deposits of limestone have been subjected to major earth movements and erosion, leaving distinct landforms (i.e. karst). These appear in gaunt, pinnacled outcrops known as bluffs and towers that project up to 40m above the surrounding plains.

Limestone and granite outcrops support patches of deciduous vine thicket. Generally, the remaining areas of the park are covered by dry tropical woodland with narrow riparian corridors.

Below the ground the limestone is also slowly dissolving away, forming underground caverns and tunnels and depositing material in the form of cave decorations such as stalagmites, shawls and cave corals.

Chillagoe–Mungana Caves National Park is located within close proximity to the Chillagoe township. Cattle grazing and mining occurs on surrounding properties.

Regional ecosystems

Nine regional ecosystems are mapped within Chillagoe–Mungana Caves National Park. Four of these are listed as of concern communities under their biodiversity status (Table 1). The remaining five are listed as not of concern at present.

General threats to the regional ecosystems include pest plant species and inappropriate fire regimes.

Ongoing management efforts are essential to maintain the health and condition of the limestone bluffs and bouldery granite outcrops with foot-slope vine thickets, especially from pest plant invasion and fire.

A significant population of bonewood *Macropteranthes montana* occurs adjacent to the Queenslander and Spring sections of the park. Compared to elsewhere these trees are very tall with a large diameter, and are of conservation significance.

Native plants and animals

Chillagoe–Mungana Caves National Park is currently known to protect 18 species of special conservation significance (Table 2). Ten birds recorded from the park are listed in international agreements (Table 3), and several species have specific management actions identified through the following national action plans:

- *The Action Plan for Australian Bats* – greater large-eared horseshoe bat *Rhinolophus philippinensis*, spectacled flying-fox *Pteropus conspicillatus* and ghost bat *Macroderma gigas*

- *1996 Action Plan for Australian Marsupials and Monotremes* – Mareeba rock-wallaby *Petrogale mareeba* and northern quoll *Dasyurus hallucatus*; and
- *Action Plan for Australian Birds 2000* – black-necked stork *Ephippiorhynchus asiaticus*, cotton pigmy-goose *Nettapus coromandelianus*, radjah shelduck *Tadorna radjah* and sarus crane *Grus antigone*.

Pockets of bonewood Macropteranthes montana occur on the park in small, localised monocultures. While existing populations appear to be stable, only occasional young trees are evident. The reason for this is unknown. However, as bonewood is a long-lived species with very slow recruitment, changes in population trend will take a long time to detect.

Tropical woodlands containing granite outcrops, especially those with boulders, are unique in the landscape and likely to contain species which are very restricted.

Fossilised bones of many animals, including the giant kangaroo, giant wombat (both extinct) and crocodile, have been found in the caves of Chillagoe–Mungana Caves National Park. The mega-fauna fossils are of particular significance.

Aboriginal culture

Sites of material Aboriginal culture, such as the Wallumba art site, have been recorded and are presented on Chillagoe–Mungana Caves National Park.

No current native title claims occur in the area, and there is no known local Indigenous interest in the management of the park.

Two Indigenous land use agreements overlap the park—agreement areas QI2007/036 and QI2002/035.

Shared-history culture

The Chillagoe Smelters are a relic of Queensland's mining and industrial heritage and, along with their ancillary industries, were once a major component of the economic activity of the Chillagoe district. They are listed on the Queensland Heritage Register representing the themes of 'Utilising natural resources' and 'Remembering significant phases in the development of settlements, towns and cities'.

Most of the Chillagoe Smelters were removed prior to the site becoming a protected area. The chimney stacks and some large items remain in situ and are popular landmarks in the local area, and an attraction to visitors. However, the site is listed as a contaminated industrial site and presents many hazards to visitor safety and the environment.

QPWS has recently redeveloped the Chillagoe Smelters site to reduce these risks through the provision of an alternative and safer point from which visitors can learn about the history.

Tourism and visitor opportunities

Chillagoe–Mungana Caves National Park receives an estimated 14,000 to 20,000 visitors per annum. Most visit use occurs during the dry season (April to September), throughout the school holiday periods for Australia's eastern states or on long weekends.

The main park attractions are the guided cave tours, Balancing Rock, Wallumba art site, the Chillagoe Smelters and the self-guided caves.

QPWS staff lead guided tours in Donna, Trezkinn and Royal Arch caves. These show caves are gated to manage visitor access.

All three show caves have well-developed paths and infrastructure which is aligned and positioned to minimise exposure to hazards and to protect the caves and cave decorations. The lighting systems installed in Donna and Trezkinn caves are unreliable and need upgrading.

Bauhinia, Pompeii and Archways offer relatively safe access for park visitors in the absence of guides. Graffiti is evident in these caves. Pedestrian impacts tend to recover in the off-season. Rubbish is removed by staff during each visit to these self-guided caves.

Visitors push into the bush to take photographs of Balancing Rock. These impacts are localised.

The boardwalk at Wallumba art site has recently been upgraded. While there is limited evidence of visitors moving off the boardwalk, fencing needs to be installed to keep stock away from the artwork and to improve presentation of the site.

Eight commercial operators currently have permits to conduct commercial activities in the park, principally in the form of guided cave tours. Commercial tour operations are not currently permitted to lead tours in the show caves.

However some operators take tours through the Archways, which is open to the public.

The Chillagoe Caving Club occasionally undertakes caving activities in the self-guided and other caves. Permits may be required for certain caving activities.

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 survey work improves staff knowledge and guides future park management.

Participation and information sharing with research institutions is encouraged.

Local, intrastate, interstate and international university and school groups undertake educational activities within Chillagoe–Mungana Caves National Park, particularly during the peak visitor use periods.

Partnerships

Park staff work in conjunction with information centres to ensure appropriate information is disseminated to potential park users, and with tour operators to ensure compliance with permit conditions. These actions assist the delivery of a quality experience for park visitors.

Staff foster and maintain positive relationships with neighbouring pastoralists and mining companies, and local community members. Where possible, fire is managed cooperatively with park neighbours.

The Chillagoe Caving Club and other special interest groups generally share information they gain when undertaking group activities on the park.

Where required, QPWS staff undertake coordinated emergency response activities in conjunction with emergency departments.

Other key issues and responses

Pest plants

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

Major pest plant species on the park are rubbervine *Cryptostegia grandiflora* (Class 2 weed of national significance), Chinee apple *Ziziphus mauritiana* (Class 2), and several environmental weeds, namely devil's claw *Martynia annua* and mimosa bush *Acacia farnesiana*. Intensive and continual control of these species is undertaken by park staff. Pest plants of potential concern include sicklepod *Senna obtusifolia* (Class 2), grader grass *Themeda quadrivalvis*, Indian couch *Bothriochloa pertusa*, neem *Azadirachta indica* and praxelis *Praxelis sp*.

Rubbervine is now largely confined to rocky outcrops within Chillagoe–Mungana Caves National Park. It still provides a significant threat to vine thickets, especially in the Metal Hills section where more work is required.

Chinee apple and mimosa bush now occur mainly in areas where mining activity and associated disturbance has occurred.

Devil's claw occurs as scattered plants on the Mungana sections of the park. If individual plants are not treated, they quickly grow into a clump. Park staff also manage off-park areas to reduce the on-park risk.

Grader grass infestations are increasing on Chillagoe–Mungana Caves National Park. They are largely associated with the slashed fence-lines and access tracks in the core, fenced area of the park. This species out-competes other species and increases the intensity of fires due to increased fuel loads.

Indian couch is widespread on the park, but of most concern where it is associated with the edges of vine thickets. This is due to the potential risk of carrying fire into these of concern regional ecosystems and because it displaces various grass species through direct competition including *Panicum chillaganum*, *Lepturus xerophilus* and *L. minutus.*

Neem occurs in the Smelters section and in the Royal Arch section along the creek. While staff actively control the neem on the park, it will continue entering the park from upstream areas and be carried in by birds.

Praxelis has been recently observed on the park and currently occurs in small patches. It is considered that this species can be contained if treated before it seeds. If it does seed, future impacts are likely to be significant.

Infestations of sicklepod that occur on adjacent reserves threaten the park. Control programs coordinated with park neighbours and Landcare groups will more effectively reduce sicklepod infestations in the area.

Pest animals

Pest animal species do not currently pose a significant threat to the natural integrity of Chillagoe–Mungana Caves National Park.

Park staff often see evidence of feral cats *Felis catus* having eaten bats and swiftlets in the caves, and undertake trapping at those times. QPWS staff believe that active management of cat populations at the local rubbish dump would significantly reduce cat populations in the Chillagoe area.

Low numbers of rabbits *Oryctolagus cuniculus* currently occur on the park. Where they occur, vegetation impacts and dig holes are apparent. Numbers are thought to be slowly building up.

Cattle *Bos spp* occur on smaller, unfenced sections of the park. They access fenced areas when flood gates are damaged.

Fire management

Planned burns are conducted on Chillagoe–Mungana Caves National Park to reduce hazards, protect life and property and to maintain the ecological integrity of vegetation communities.

It is suspected that some of the Indian couch incursions into the vine thickets may have resulted as a consequence of inappropriate fires in the past. Where this has occurred, the potential exists for fire intensity to increase and scorch the vine thickets.

Other management issues

Rock bleaching can occur where inappropriate construction materials such as galvanised steel, zinc-based products or mismatched metals which lead to electrolysis are used in the caves. Where existing cave infrastructure has been constructed from these materials, they are being progressively replaced.

Management directions

Desired outcomes	Actions and guidelines
Regional ecosystems Threatened species and ecosystems are managed to avoid loss of populations and modification of threatened regional ecosystems.	Undertake survey work to establish baseline data for Metal Hills section of the park. Collate existing information and conduct ongoing monitoring and survey work to improve staff knowledge—and use the information gained to guide future park management.
Tourism and visitor opportunities Limestone caves are appropriately protected and presented. Visitors enjoy safe access to the Chillagoe Smelters ruins.	Only present the show caves in the presence of a guide. Maximise protection of the show caves and self-guided caves by aligning and positioning infrastructure to avoid deliberate damage to cave formations and to minimise exposure to hazards. Provide information materials and guided messages that clearly outline appropriate behaviour in the cave systems. Instigate remedial actions, such as changing guide practices or hardening areas, where floor damage is occurring away from designated pathways. Where deliberate damage is occurring to caves, consider management options such as closure of the cave, hardening of areas in the cave and/or restricting access to sections of the cave. Investigate options to remove or disguise the graffiti in self-guided caves. Establish baseline levels for rock bleaching within caves and on external cave accesses, and progressively replace galvanised and timber products with benign and stable materials that do not degrade cave ecosystems. Manage the access and use of wild caves through a permit system, and liaise with permit holders to facilitate management of cave systems that are not regularly accessed.
Fire and pest management Savanna woodlands on metamorphics and granite hills and vine thickets are conserved through the appropriate management of fire and pest plants.	Implement fire regimes that will maintain an appropriate mix of age classes for the savanna woodlands. Where fire has caused damage to vine thickets, determine how best to avoid similar instances in the future and/or rehabilitate damaged areas. Continue to intensively manage pest plant species, with a particular focus on gradually reducing the presence of rubber vine and Chinee apple across the park, and the rate of Indian couch encroachment into vine thickets.

Tables – Conservation values management

Table 1: Endangered and of concern regional ecosystems

Regional ecosystem number	Description	Biodiversity status
9.3.13	*Melaleuca fluviatilis* and/or *M. argentea* +/- river red gum *Eucalyptus camaldulensis* fringing woodland on channels and levees. Generally on western flowing rivers.	Of concern
9.11.18a	Semi-deciduous vine thicket on limestone rock outcrops	Of concern
9.11.32	*Eucalyptus leptophleba* and/or *Corymbia terminalis* woodland on aprons surrounding limestone outcrops	Of concern
9.12.9	Bonewood *Macropteranthes montana* tall shrubland on acid and intermediate igneous rocks	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				
Macropteranthes montana	bonewood	Vulnerable	Vulnerable	Low
Lepturus minutus	-	Vulnerable	-	Data deficient
Stictocardia queenslandica	-	Near threatened	-	Medium
Lepturus xerophilus	-	Near threatened	-	Low
Panicum chillagoanum	-	Near threatened	-	Low
Graptophyllum excelsum	-	Near threatened	-	Low
Cucumis sp. (Mt Surpise)	-	Near threatened	-	Medium
Animals				
Rhinolophus philippinensis	greater large-eared horseshoe bat	Endangered	Endangered	High
Macroderma gigas	ghost bat	Vulnerable	-	Critical
Lygisaurus rococo	Chillagoe litter-skink	Near threatened	-	Low
Aerodramus terraereginae	Australian swiftlet	Near threatened	-	Low
Ephippiorhynchus asiaticus	black-necked stork	Near threatened	-	Low
Nettapus coromandelianus	cotton pygmy-goose	Near threatened	-	Low
Hipposideros diadema reginae	diadem leaf-nosed bat	Near threatened	-	Low
Petrogale mareeba	Mareeba rock-wallaby	Near threatened	-	Low
Tadoma radjah	radjah shelduck	Near threatened	-	Low
Dasyurus hallucatus	northern quoll	-	Endangered	Medium
Pteropus conspicillatus	spectacled flying-fox	-	Vulnerable	High

Table 3: Species listed in international agreements

Scientific name	Common name	CMS	JAMBA	CAMBA	ROKAMBA
Merops ornatus	rainbow bee-eater	-	-	✓	-
Coracina tenuirostris	cicadabird	-	-	✓	-
Apus pacificus	fork-tailed swift	-	✓	✓	✓
Ardea modesta	eastern great egret	-	✓	✓	-
Grus antigone	sarus crane	-	✓	-	-
Haliaeetus leucogaster	white-bellied sea-eagle	-	✓	-	-
Rhipidura rufifrons	rufous fantail	✓	-	-	-
Symposiarchus trivirgatus	spectacled monarch	✓	-	-	-
Acrocephalus australis	Australian reed-warbler	✓	-	-	-
Falco cenchroides	nankeen kestrel	✓	-	-	-

BONN (CMS) – Bonn Convention

CAMBA – China–Australia Migratory Bird Agreement

JAMBA – Japan–Australia Migratory Bird Agreement

ROKAMBA – Republic of Korea–Australia Migratory Bird Agreement