Cleland National Park

Management Plan 2022

SOUTH AUSTRALIA

Government of South Australia
Department for Environment and Water

Acknowledgement of Country

The Department for Environment and Water acknowledges Aboriginal people as the First Peoples and Nations of the lands and waters we live and work upon and we pay our respects to their Elders past, present and emerging. We acknowledge and respect the deep spiritual connection and the relationship that Aboriginal and Torres Strait Islander people have to Country.

Minister's Foreword

Cleland National Park provides opportunities to be immersed in nature a short drive from the city centre.

Home to numerous threatened plant and animal species, the park protects ecosystems that contribute to the Mount Lofty Ranges landscape and support ecological processes beyond the park's boundaries.

At Cleland Wildlife Park, visitors can interact with native animals in their natural habitat and learn about the importance of conservation and the contribution of the park network. The Wildlife Park is a major drawcard for tourists to Adelaide and South Australia. Hundreds of thousands of local, interstate and international visitors enjoy the park's trails that wind through native vegetation, past waterfalls and through forest areas providing sweeping views of the Adelaide Plains. A priority for this plan is protecting and enhancing the natural environment while providing diverse and engaging wildlife experiences that build lasting connections to nature.

Cleland National Park is a shared boundary of the Kaurna and Peramangk people. Their ongoing connection to the land is acknowledged and celebrated by this plan.

This plan contains strategies to prepare for and adapt to climate change, manage visitor interactions, and control pest plants and animals. These strategies aim to build the resilience of the park's wildlife and ecosystems so they can be enjoyed by generations to come.

I would like to acknowledge the outstanding work of the volunteers that help make this park special, particularly the volunteers at the Cleland Wildlife Park and the Friends of Cleland whose efforts contribute substantially to the condition of the park and our shared knowledge of the plants and animals that live in it. I would also thank those who helped in the plan's development by making a submission on the draft plan.

I now formally adopt the Cleland National Park Management Plan under section 38 of the *National Parks and Wildlife Act 1972*.

David Speirs MP
Minister for Environment and Water

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Developing this plan

Cleland National Park protects an important area of bushland on the Mount Lofty Ranges hills face. The park protects threatened ecological communities and scenic landscapes including flowing creek lines and cascading waterfalls, bogs (freshwater swamps), heathlands, woodland and forest areas.

The Cleland Wildlife Park is located within the national park and is an iconic South Australian tourism destination, attracting local, interstate and international visitors.

The natural bushland setting and wildlife experiences provided at Cleland, as well as its close proximity to Adelaide, combine to attract hundreds of thousands of visitors each year.

This plan provides strategic direction for the protection and enhancement of the natural values of Cleland National Park, reflecting the park's iconic status in the community. It also provides guidelines for the commercial operation of the Cleland Wildlife Park, including revenue generating activities and partnerships with a diversity of sectors for financial and practical support. It guides ecological management strategies, directs the provision of development in the park, and ensures visitor needs can be met while maximising environmental protection. It directs fire management that will meet the ecological needs of species and habitats, and the safety needs of the community. It also outlines objectives to ensure strong collaboration between partners to optimise outcomes both within Cleland National Park and throughout the wider landscape.

This plan supports the park's ongoing role in the state's economic development and provides action to meet increasing demand for nature based tourism and guide investment in new tourism infrastructure in the park.

This management plan has been developed based on a review of the previous plan, and in consultation with technical specialists, park managers and key stakeholders. Through a series of forums and meetings, these stakeholders contributed their specialised knowledge and views to guide the direction and content of this plan.

This plan replaces the Cleland Conservation Park Management Plan 1983.

Directions for management

This plan sets the direction, objectives and strategies for the long-term management of Cleland National Park (Figure 1).

To achieve the objectives of the *National Parks and Wildlife Act 1972*, it will be managed primarily for conservation whilst also facilitating environmentally sustainable public use, enjoyment and education.

The park is a shared boundary of the Kaurna and Peramangk people, with Kaurna to the west and Peramangk to the east. It was a meeting place and place for trade and both nations have dreaming stories around the Mount Lofty Ranges. This plan acknowledges and celebrates this ongoing cultural connection.

Cleland Conservation Park was first proclaimed in 1978, with the neighbouring Eurilla Conservation Park proclaimed in 1977. Cleland National Park was proclaimed in 2021, and incorporated both of these Conservation Parks to protect ecologically significant landscapes and species while providing popular nature-based visitor experiences. The park includes the popular Cleland Wildlife Park, which has been a major tourist attraction in South Australia since 1967, as well as Waterfall Gully and Mount Lofty Summit, all of which conduct considered commercial operations that support the broader tourism industry.

Section 39 of the *National Parks and Wildlife Act 1972* determines that a management plan may provide for the division of a reserve into zones. Where a zone is created in a reserve, the land must be kept and maintained in accordance with the conditions declared by the plan of management to be appropriate to that zone. The zones set out in this plan are based on this section of the Act to articulate the management visions for the park and are not related to any zone or layers of the South Australian Planning and Design Code (under the *Planning, Development and Infrastructure Act 2016*).

In this plan, defined Visitor Use Zones are linked to specific management plan strategies that outline the type of use and development that can occur in each defined zone. Where a Visitor Use Zone exists, it is supported by a map and corresponding strategy that describes the activities envisaged in that zone.

The *Directions for a Climate Smart South Australia* policy statement identifies acting on climate change as an urgent imperative. With hotter and drier conditions and more frequent and intense extreme weather events, parks across the state need to respond to the impacts of climate change. This park management plan identifies several key impacts that climate change will have on park management values, and outlines multiple strategies to address these impacts to support climate resilient outcomes.

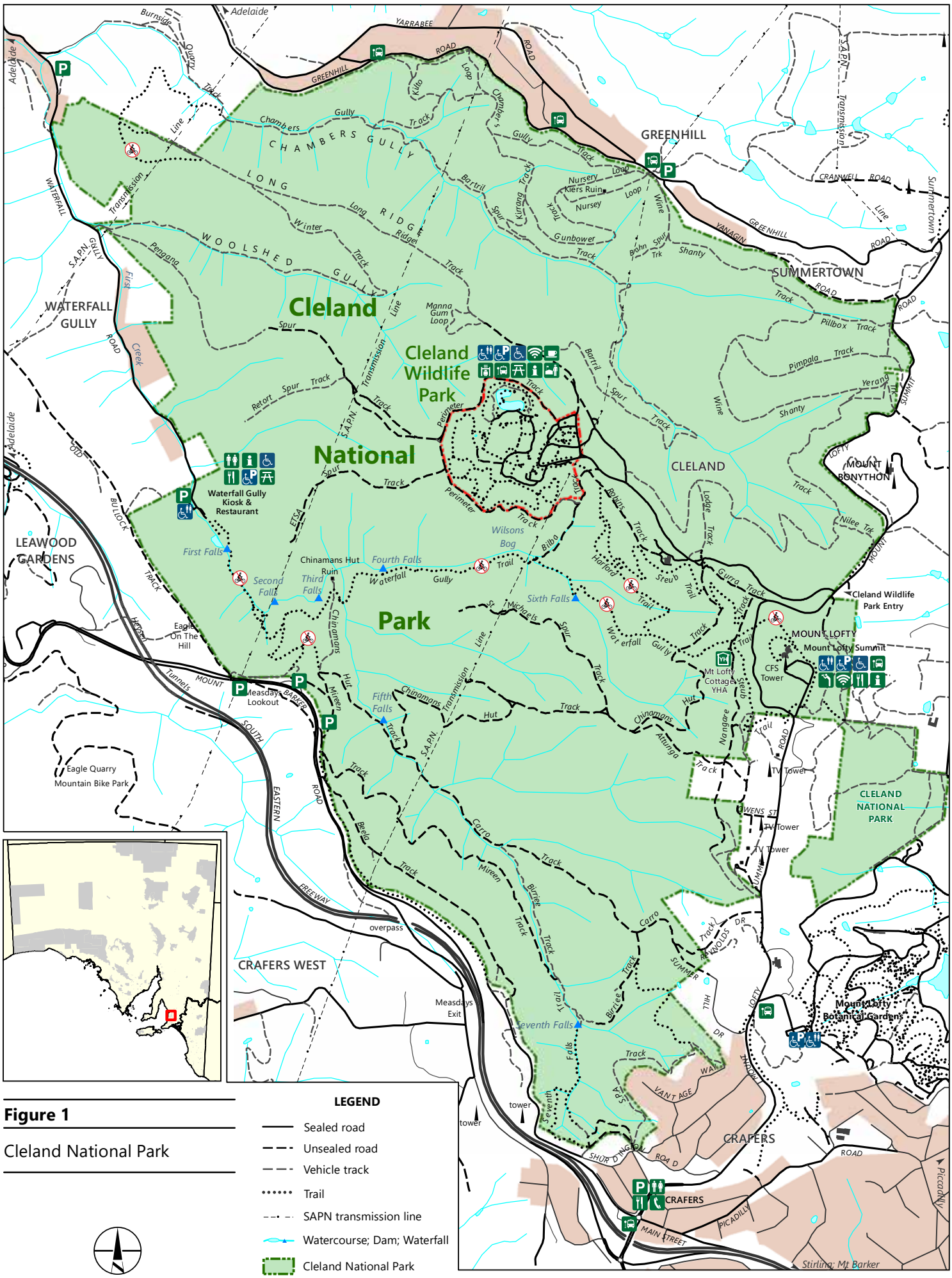


Figure 1

Cleland National Park

LEGEND

- Sealed road
- Unsealed road
- Vehicle track
- Trail
- SAPN transmission line
- Watercourse; Dam; Waterfall
- Cleland National Park
- Cleland Wildlife Park
- Built-up area
- Large building; Ruin; Tower

- Bus stop; Parking; Barbecue
- Information; Park office; Wifi
- Meals; Picnic area; Lookout
- Toilets; Phone; Refreshments
- No cycling; Youth Hostel
- Wheelchair access
- Wheelchair accessible parking
- Wheelchair accessible toilets

0 km 0.5 1

Significance and purpose

Cleland National Park (1036 hectares) protects one of the largest areas of native vegetation along the Mount Lofty Ranges hills face. Located less than 10 kilometres east of the Adelaide CBD, it provides a unique opportunity for local, interstate and international visitors to experience nature right on their doorstep.

The Mount Lofty Ranges has been recognised as a biodiversity hotspot in recognition of the wide diversity of native species, the high numbers of endemic species, and the fact that the remaining biodiversity is under a high level of threat.

Within the park the varied topography supports a diversity of habitats, from creeks and tributaries that flow through steep sided gullies to eucalypt stringybark forest and woodlands. The ecosystems conserved within the park make an important contribution to the wider Mount Lofty Ranges landscape and support natural ecological processes beyond the park's boundaries.

Cleland National Park protects many of the last remaining intact swamps and bogs (organic based perched swamps) in the Mount Lofty Ranges. These bogs support endangered and endemic flora and fauna including the southern brown bandicoot (*Isoodon obesulus obesulus*) and king fern (*Todea barbara*).

The iconic Cleland Wildlife Park is located within the national park and is managed to reflect its focus on public enjoyment and education. The Wildlife Park is a major tourism attraction for South Australia, containing commercial operations and includes a visitor centre, learning centre, koala experience structures, aviaries and exhibits. Attracting approximately 140,000 guests each year, the Wildlife Park delivers diverse and immersive wildlife experiences in a beautiful and well-maintained natural environment. By creating and supporting a love of nature, the park provides information and knowledge to empower conservation action in visitors, staff, researchers and supporters.

Visitors have been enjoying the picturesque Waterfall Gully since the 1870s and the panoramic views across the Adelaide Plains from Mount Lofty Summit since before the obelisk was built in 1885. The walking trail from Waterfall Gully to the Mount Lofty Summit is one of the most popular walking trails in the state with up to 600,000 walkers each year.

Cleland National Park is a shared boundary of the Kaurna and Peramangk people. Kaurna visited in spring and autumn to gather gum resin for tool making, bark for their shelters, and possum and wallaby skin for food and clothes. Both nations have Dreaming stories associated with features of the Mount Lofty Ranges which have been passed down over generations, and their strong connection to Country continues today.

What are we looking after?

Cleland National Park protects:

- Remnant bushland that plays an important ecological role within the heavily fragmented Mount Lofty Ranges landscape.
- Several of the last intact bogs and springs in the Mount Lofty Ranges that provide increasingly important habitat for threatened plant and animal populations.
- A range of ecological communities that support state and federally endangered, threatened and rare flora and fauna.
- Landscapes of cultural and spiritual significance to the Kaurna and Peramangk people.
- Cleland Wildlife Park, an iconic visitor attraction that provides immersive wildlife experiences for visitors that instil lasting recognition of the importance of conservation.
- Popular visitor destinations at Waterfall Gully and Mount Lofty Summit.
- A network of trails that wind through native vegetation and reward walkers and cyclists with sweeping views of the Adelaide Plains, waterfalls and natural areas.

Challenges and opportunities

Key challenges and opportunities in the protection and management of Cleland National Park are:

- Conserving and recovering threatened native species.
- Reversing a general decline in bird populations across the Mount Lofty Ranges.
- Managing pest plants, animals and phytophthora to protect native species and ecosystems.
- Acknowledging the lack of long term monitoring and research on the impacts of climate change on threatened species and ecosystems and the limitation this creates for their future management.
- Managing visitor interactions to ensure the ecological integrity of the park is maintained for generations to come.
- Expanding opportunities for visitors to experience the park's offerings in new ways, including overnight accommodation in the Wildlife Park Zone and events.
- Continuing to provide immersive wildlife encounters that create lasting connections at Cleland Wildlife Park.
- Contemporise facilities and infrastructure to improve the visitor experience and the operational efficiency and performance of the park's commercial outlets.
- Ensuring that new development is sympathetic to the natural and heritage values of the park, is flexible to changing visitor demands and considers bushfire risk.
- Ensuring park infrastructure is sufficient to meet the demands of increasing visitor numbers, changing visitor preferences, potential for future development, and future climatic changes.
- Managing the increasing risk of bushfire in the park to ensure visitor and community safety and ecological advantage.
- Incorporating Kaurna and Peramangk knowledge and expertise into the management of the parks and celebrating their heritage by sharing cultural stories and knowledge.
- Strengthening partnerships with lessees, adjoining landowners, volunteer organisations, researchers, Indigenous groups and the wider community to foster collaboration and long term management benefits.

Park management zones

Four management zones have been defined for Cleland National Park (Figure 2).

Conservation Zone A

Conservation Zone A protects an area of high conservation value. With a lower proportion of weeds and an abundance of threatened species, supporting key ecological communities in this area is of high importance. These communities include bogs, creek lines, heathlands and eucalypt stringy bark forest and woodlands. Priorities for this zone include restoring and improving habitat, avoiding fragmentation from tracks, managing weeds and monitoring total grazing pressure to avoid negative impacts to valued species and communities.

Unstructured recreation activities that utilise existing trails and other infrastructure, and have low environmental impacts such as walking, photography and bird watching, are encouraged within Conservation Zone A. A risk assessment of the impact of cycling on the natural values in this Zone should be undertaken to inform the future of cycling in this Zone.

No new tracks, trails or major developments are considered appropriate in this zone. Maintenance and other minor works may occur if deemed necessary for management purposes.

Conservation Zone B

Conservation Zone B has been heavily modified by historical land clearing and pest plant invasions. This land comprises heavier soils that support different vegetation communities including woodland and grassland which are naturally more vulnerable to weeds. Key priorities for this zone include controlling key weeds where they impact on native species, monitoring grazing pressure, and preventing spread into Conservation Zone A. The management of threats and natural assets will aim to convert this zone to a quality that enables it to become part of Conservation Zone A over time.

Unstructured recreation activities such as walking, cycling, photography and bird watching are encouraged within Conservation B Zone. Further trail development may be appropriate in the future if environmental risks are assessed as low. Future developments will consider the importance of protecting high value refuges in the low lying valleys and creeks within this zone, which may become increasingly important with climate change.

Cleland Wildlife Park Zone

The Cleland Wildlife Park Zone occupies the central plateau of Cleland National Park. The zone includes the Wildlife Park and adjoining car parks. It is primarily managed as a commercial visitor use zone within the national park and its priority is the ongoing provision of facilities and leases, where appropriate, to support an immersive wildlife park experience for visitors. Associated research and conservation services support this. Ecologically sensitive tourist accommodation is permitted in this zone.

Visitor Use Zones

The land located in leased sites within Cleland National Park including Mount Lofty Summit, Waterfall Gully and the former Youth Hostel have been identified as Visitor Use Zones to reflect their higher visitor loads and associated infrastructure. Priorities for Visitor Use Zones include providing exceptional visitor experiences, minimising ecological impact, and maintaining and improving supporting infrastructure.

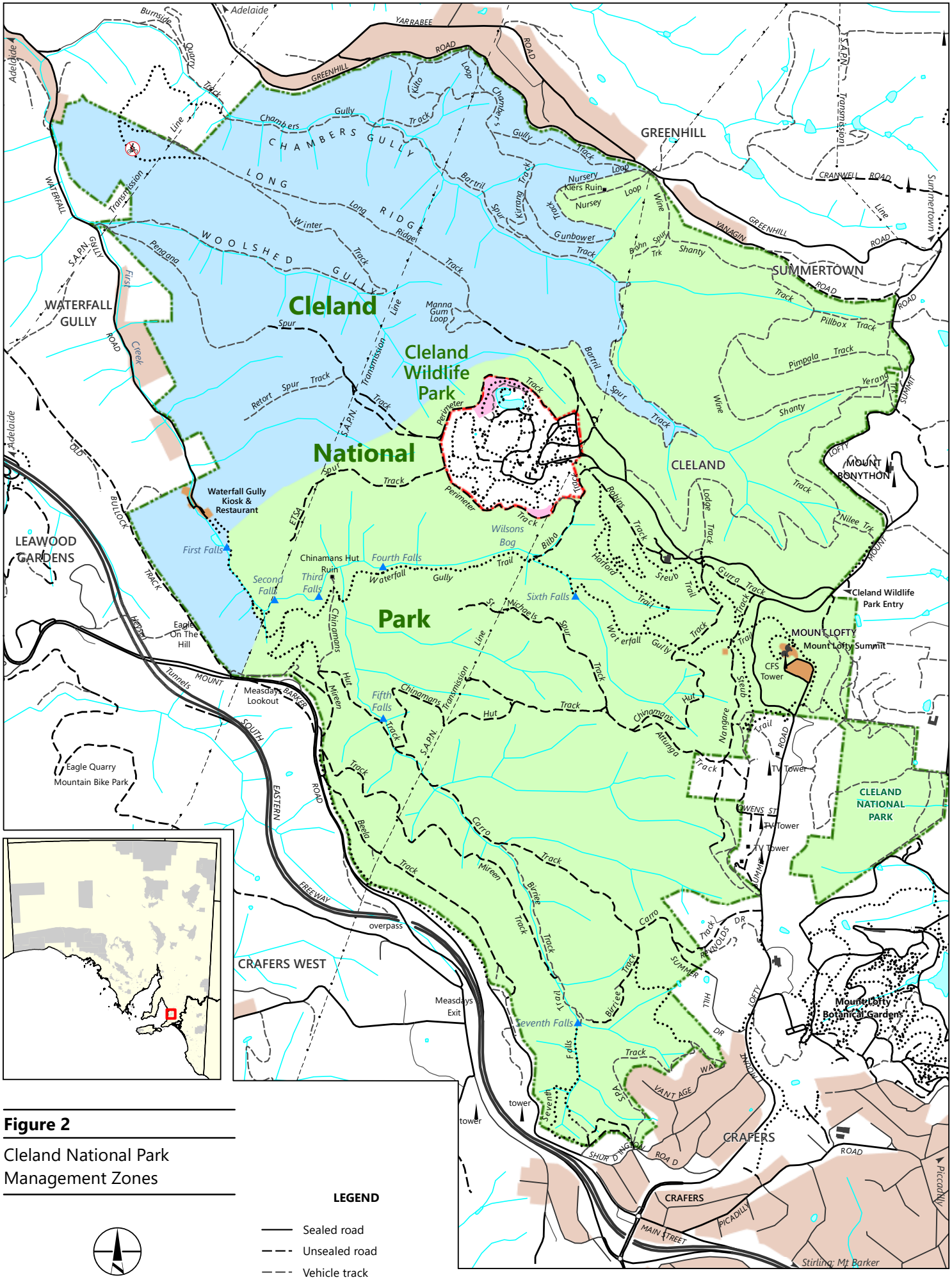


Figure 2

Cleland National Park Management Zones

LEGEND

- Sealed road
- Unsealed road
- Vehicle track
- Trail
- SAPN transmission line
- Watercourse; Dam; Waterfall
- Large building; Ruin; Tower
- Conservation Zone A
- Conservation Zone B
- Wildlife Park Zone
- Cleland National Park
- Visitor Use Zone
- Tourist Accommodation Area
- Built-up area

0 km 0.5 1

THEME 1:
Conserving & enhancing wildlife

As one of the largest areas of bushland in the central Mount Lofty Ranges, Cleland National Park plays an important ecological role for the conversation of wildlife. A variety of landscapes in the park including bogs (freshwater swamps), heathlands, steep valleys, permanently wet creek lines and cascading waterfalls support a range of rare and endangered species.

Bogs were uncommon in the Mount Lofty Ranges even before European settlement and many were severely impacted by the widespread clearing and draining associated with agricultural development. The relatively undisturbed bogs within the park are high-value remnant habitats. More than half of the plant species that occur in the Cleland National Park bogs are rare or threatened, including the endangered king fern (*Todea barbara*), rare coral fern (*Gleichenia dicarpa*) and rare naked sun orchid (*Thelymitra circumsepta*). The bogs also provide important habitat for populations of the endangered southern brown bandicoot (*Isoodon obesulus obesulus*). These bogs possess unique characteristics that make them eligible for nomination as a threatened ecological community under the *Environment Protection and Biodiversity Conservation Act 1999*.

The ridgetops of Cleland National Park are characterised by heathlands. The nationally endangered and endemic Mount Lofty Ranges chestnut-rumped heathwren (*Hylacola pyrrhopygia parkeri*) and other bushland birds depend on the good health of this heath layer, which is influenced by fire. Adapted to foraging for food and building domed nests near or on the ground, the heathwren is threatened by high levels of habitat degradation and fragmentation of regional heathlands. Southern brown bandicoots also rely on the heathland habitat.

More densely forested areas and damp gullies are favoured habitat for the nationally vulnerable bassian thrush (*Zoothera lunulata halmaturina*). Other fauna species of conservation significance found at Cleland include the vulnerable yellow footed antechinus (*Antechinus flavipes*) and endangered cunningham's skink (*Egernia cunninghami*).

Across Cleland National Park there are woodlands of blue gum (*Eucalyptus leucoxlyon*) often with a weedy understory, open grasslands of kangaroo grass (*Themeda triandra*) with manna gum (*E. viminalis*), blue gum and stringybark open forest (*E. obliqua / E. baxterii*). These provide habitat for over 90 native bird species.

The large, hollow-filled trees of Cleland National Park provide important nesting sites for the vulnerable yellow-tailed black cockatoo (*Zanda funerea*). The spring-fed creeks and waterfalls that wind through the park provide a unique permanency of water in the landscape supporting habitat for the vulnerable mountain galaxias (*Galaxias olidus*) and brown toadlet (*Pseudophryne bibronii*).

The Regional Recovery Plan for Threatened Species and Ecological Communities of Adelaide and the Mount Lofty Ranges, South Australia 2009-2014 details an in-depth approach to threated species recovery and threat abatement in the region (Wilson & Bignall 2009). While dated, this plan is valuable and should be used to inform management of these key species and ecological communities.

Prior to being proclaimed as a conservation park, areas now within the park were cleared for timber and farming. Although the park's vegetation has largely regenerated, an altered fire regime, weeds, grazing pressure and visitors continue to impact natural values. These landscape modifications do not diminish the park's conservation values today, but simply reinforce the need to identify and manage current values with a view towards the future.

The preparation of a biodiversity plan for Cleland National Park is required to guide on-ground activities to reduce threats such as pest plants and animals. This plan should refer to the conservation zones identified in this management plan.

Many areas in Conservation Zone B are dominated by weeds that native fauna species such as the southern brown bandicoot and bassian thrush now rely upon for habitat. Where there is no practical regenerative potential to return the landscape to its native biodiverse state, the value of these weeds in providing habitat should be acknowledged. Weed control should be prioritised to achieve specific outcomes, for example to improve tree health or manage threatened flora sites.

More widespread weed control should be undertaken in the relatively intact Conservation Zone A to maintain its high conservation values. This will aid in maintaining ecological integrity in this area of the park, avoiding displacement of native vegetation and preventing further disruption of natural ecological processes.

Introduced pest animals including rabbits (*Oryctolagus cuniculus*), foxes (*Vulpes vulpes*), feral cats (*Felis catus*), and deer (*Dama dama*) are present throughout the Mount Lofty Ranges including Cleland National Park.

Because these species are ubiquitous in the landscape, management will not be focussed on eradication but on the minimisation of their impacts to native species and habitats. Vertebrate pest management will be undertaken where these impacts are a significant contributor to native species decline and where programs are likely to be effective.

Total grazing pressure in the park should be monitored where required to determine impacts to plant diversity and habitat quality by both native and introduced fauna. Control of introduced herbivores is a priority. Where documented evidence indicates that total grazing pressure is unsustainable and impacting the conservation values of the parks, strategic management will also be considered for native species such as western grey kangaroos (*Macropus fuliginosus*), swamp wallabies (*Wallabia bicolor*) (which are not native to the Mount Lofty Ranges) and koalas (*Phascolarctos cinereus*).

Strategic management should consider non-lethal management actions in the first instance. Where these actions are considered ineffective or not feasible, culling may be implemented where this remains the only practicable method of management. Any culling will follow strict procedures for the humane destruction of animals.

Phytophthora (*Phytophthora cinnamomi*) is a soil and waterborne fungus common throughout South Australia. In Cleland National Park the fungus is a major threat, causing disease and death in a variety of native plant species. The disease is easily spread via vehicle and bike tyres and the shoes of staff and visitors. Further spread must be prevented wherever possible through a range of consistent hygiene strategies.

Climate change is projected to cause hotter and drier conditions, and increases in the bushfire risk and intensity of rainfall events. While climate change is likely to be a risk for all ecological communities in the area, the biodiversity supported by bogs, creeks and other water or fire dependant species is particularly vulnerable. Ongoing monitoring and research into the impacts of climate change on key species should be undertaken to develop an understanding of how to best support these species into the future.

Appropriate and well-planned fire management is necessary to maintain healthy habitats at their optimal fire age for the species that depend on them. Fire management objectives and strategies are described in Theme 4 Managing fire.

Opportunities to expand the park through the acquisition of neighbouring land parcels should be considered, taking into account natural values, conservation potential and access.

Objectives and strategies

Protect and restore habitats that support threatened species and natural processes.

Focus conservation efforts on areas of high biodiversity and natural value in Conservation Zone A.

WHOLE OF PARK STRATEGIES

- Develop a biodiversity plan for Cleland National Park to guide habitat restoration, protection of species, threat abatement activities and species recovery.
- Apply an adaptive management approach to ensure populations of threatened fauna have suitable conditions to persist, particularly in Conservation Zone A.
- Monitor populations of threatened flora species including king fern (*Todea barbara*), coral fern (*Gleichenia dicarpa*) and naked sun orchid (*Thelymitra circumsepta*) to inform management action, particularly in Conservation Zone A.
- Monitor the condition of valued and at risk ecological communities including bogs, manna gum (*Eucalyptus viminalis*) and candlebark woodland (*Eucalyptus rubida*) to inform management response.
- Support the nomination of bogs (freshwater perched swamps) as a threatened ecological community under the *Environmental Protection and Biodiversity Conservation Act 1999*.

- Retain large trees with hollows that provide important habitat to yellow-tailed black cockatoos (*Zanda funerea*) and other species.
- Use fire to conserve and enhance natural landscapes and maintain habitat that supports threatened species (see also Theme 4).
- Continue to prevent the spread of phytophthora via vehicles, bikes and people through strategic management of recreational activities by park users and contractors, application of appropriate hygiene strategies, and high level trail management.
- Monitor total grazing pressure from introduced animals and native species including koalas (*Phascolarctos cinereus*) and western grey kangaroos (*Macropus fuliginosus*), and manage appropriately in response to evidence of harm to conservation values.
- Monitor, control and where possible eradicate new and emerging weed populations such as star of bethlehem (*Ornithogalum umbellatum*), *Muraltia sp.* and topped lavender (*Lavandula stoechas ssp. stoechas*).
- Support monitoring and research projects to inform future management and climate change adaptation options for key species to maintain conservation values.
- Seek opportunities to expand the park area through the acquisition of adjoining land parcels.

CONSERVATION ZONE A

- Undertake minimal disturbance weed control in bogs and other high conservation value areas in Conservation Zone A.
- Restore and protect habitat in Conservation Zone A by managing threats including weed incursion, in English broom, gorse, blackberry, olive and bamboo/giant reed (*Arundo sp*).
- Restrict future development in Conservation Zone A including new tracks and trails.
- Manage access in this zone consistent with the walking and cycling trail strategy when prepared (refer Theme 3).

CONSERVATION ZONE B

- Monitor for incursions of new weed species and control to prevent their establishment in the park.
- Monitor and control priority pest plants such as olive (*Olea sp.*) and topped lavender (*Lavandula stoechas ssp. Stoechas*) in Conservation Zone B where they have adverse impact on tree health and other conservation values, while recognising the value of some weeds in providing novel habitat for vulnerable species.
- Ensure an environmental risk assessment is undertaken for any new tracks or trails to ensure trail design and construction does not impact conservation values.
- Aim to improve Conservation Zone B to a Conservation Zone A standard over time.

THEME 2:

Enriching experiences at Cleland Wildlife Park

Cleland Wildlife Park is located within Cleland National Park and is a major drawcard for tourists to Adelaide and South Australia. The Cleland Wildlife Park Zone is primarily managed as a commercial zone within the national park and its priority is the ongoing provision of facilities and leases, where appropriate, to support an immersive wildlife park experience for visitors. The Wildlife Park provides an interactive wildlife experience, allowing visitors to connect with South Australian animals in their natural habitat and learn about the importance of conservation. A range of formal and information education programs for students and the public support these wildlife experiences, fostering a deeper understanding of the environment. These positive interactions promote environmental stewardship in our communities, encouraging people to adopt and sustain new behaviours beyond their park experience.

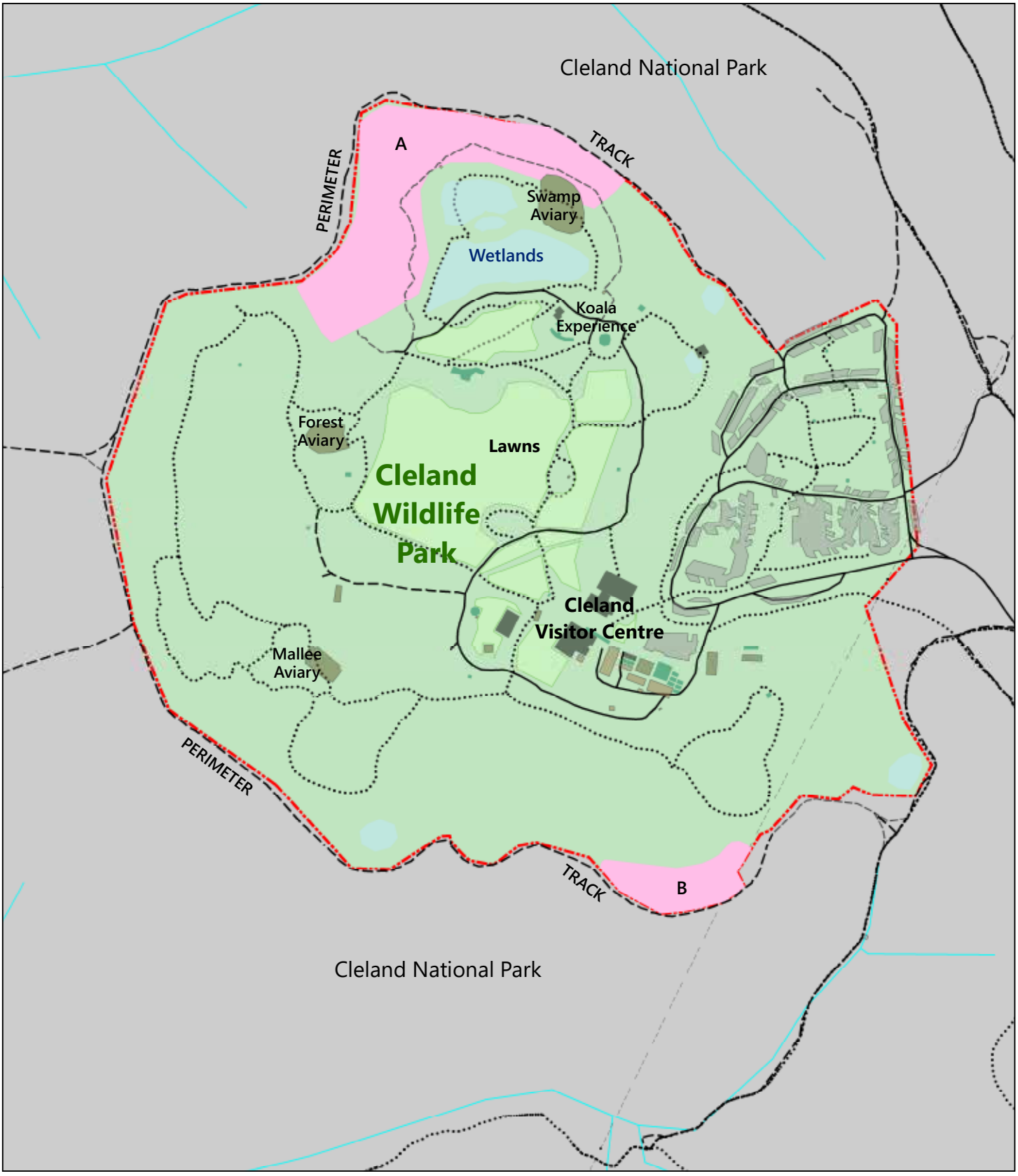
The wildlife park is operated by DEW and generates revenue that supports the ongoing delivery of animal husbandry and welfare, visitor experiences, park maintenance and research, and conservation programs.

Visitors can get up close and personal to marsupials such as koalas, kangaroos and potoroos, echidnas, dingoes, native birds and reptiles with opportunities to feed the animals, hold a koala, listen to keeper talks, and admire the natural surrounds. The wildlife park also supports research and participates in conservation efforts including rewilding, captive breeding and re-introduction programs.

Construction of overnight tourist accommodation facilities within Tourist Accommodation Area A (Figure 3) of the Cleland Wildlife Park Zone will allow new nature-based experiences to be realised. Tourist Accommodation Area B (Figure 3) is identified as a site for tourist accommodation in the future.

The accommodation and associated facilities will reaffirm Cleland Wildlife Park as a world-class ecotourism destination and connect visitors more deeply to the local environment. This development should be designed in a way that complements the natural character of the park and minimises ecological disturbance. Any development will need to meet the planning policies contained in the Planning and Design Code. A Conservation Dividend will be required in addition to the lease or licence for these activities and will be used to contribute to approved conservation programs in these parks.

Upgrades to infrastructure including roads and tracks, wastewater, water, power and parking will be required to support growth within the Cleland Wildlife Park Zone.



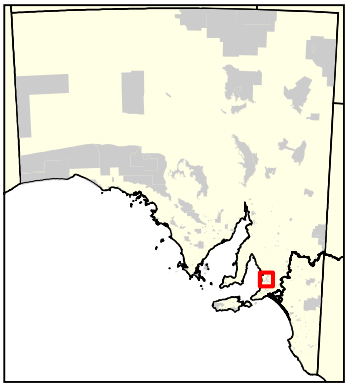


Figure 3

Cleland Wildlife Park Zone

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LEGEND

- Sealed road
- Unsealed road
- Vehicle track
- Trail
- SAPN transmission line
- Tourist Accommodation Area
- Cleland Wildlife Park
- Car Park
- Building
- Enclosure
- Lawns
- Shed
- Shelter
- Water Source

Objective and strategies

Provide opportunities to learn, conserve and engage with nature at Cleland Wildlife Park.

- Continue to provide diverse and immersive wildlife experiences that deeply engage visitors and build lasting connections to nature.
- Deliver effective interpretation that deepens visitor appreciation and understanding of the importance of native plant and animal conservation.
- Continue to develop and improve the wildlife park experience to adapt to changing visitor needs.
- Continue to develop and maintain facilities within the Wildlife Park Zone that are designed and constructed in a way that upholds the character of the natural landscape.
- Expand the experiences provided in the Cleland Wildlife Park Zone by developing ecologically sensitive tourist accommodation in Tourist Accommodation Area A (Figure 3). This includes up to 25 individual small scale, single-storey accommodation buildings, and associated shared services, including food, beverage and conference facilities, as well as associated roads and tracks.
- Allocate Tourist Accommodation Area B (Figure 3) for future development of ecologically sensitive tourist accommodation facilities. This includes up to ten individual small scale, single-storey accommodation buildings, and associated roads and tracks.

THEME 3:
Providing a variety of visitor experiences

An extensive network of trails at Cleland National Park allow visitors to interact with nature and enjoy scenic views of the Adelaide Plains and Gulf of St Vincent.

Since the development of the 2010 Trails Master Plan, cycling is now permitted within the park and it is timely to review and update the trails plan. The 2010 plan addressed objectives to encourage visitors to explore lesser known regions of the park, ensure existing tracks are well maintained and signed, disperse visitors across the park and minimise ecological impacts. The review of the trails plan should include a risk assessment of cycling in the park that considers issues associated with biodiversity conservation, trail maintenance, use of shared trails and phytophthora spread. Opportunities to rationalise tracks within Conservation Zone A should be investigated.

The current trail network links visitor destinations across the park. Visitors can explore evidence of early European heritage in the park including the iconic Mount Lofty obelisk, built in 1885 and commemorated to Matthew Flinders in 1902, 100 years after his first sighting of the peak. Other historic evidence of European settlement includes a number of ruins and stone buildings associated with early farming and pastoralism.

The boundary of the former Cleland Conservation Park as of 1993, including Mount Lofty Summit and Waterfall Gully, is listed as a State Heritage Place in the SA Heritage Register. This means that any development within the park requires development approval, including any alteration to buildings. Amendments to State Heritage regulations to enable works that do not relate to the heritage values being protected should be investigated.

One of the most popular walking trails in the state leads from Waterfall Gully to the Mount Lofty Summit, the highest peak of the Mount Lofty Ranges. After climbing steep hills through native stringybark forest, hikers are rewarded with spectacular views across Adelaide. The scenic Waterfall Gully also draws crowds of tourists to admire the gushing falls. Lessees at Mount Lofty and Waterfall Gully support the visitor experience at these locations.

The popularity of these destinations may require infrastructure upgrades to facilitate increasing visitor numbers or future development within the relevant Visitor Use Zones (refer to Figures 4 and 5). The capacity of water supply and wastewater treatment systems may be inadequate to support additional visitor numbers. Car and bus parking, particularly at Waterfall Gully, already regularly reaches capacity and alternative options may need to be explored. Opportunities for use of the former Youth Hostel building should be investigated (see Figure 4).

Collaborating with Commercial tour operators to provide ecologically sensitive opportunities to the public will help more people appreciate and understand the natural setting of the park.

Managing the park for sustainable visitor use is critical to ensure ecosystems are conserved for future generations to enjoy. Visitor numbers and impacts should be monitored and appropriate actions taken to manage and disperse visitors if necessary.

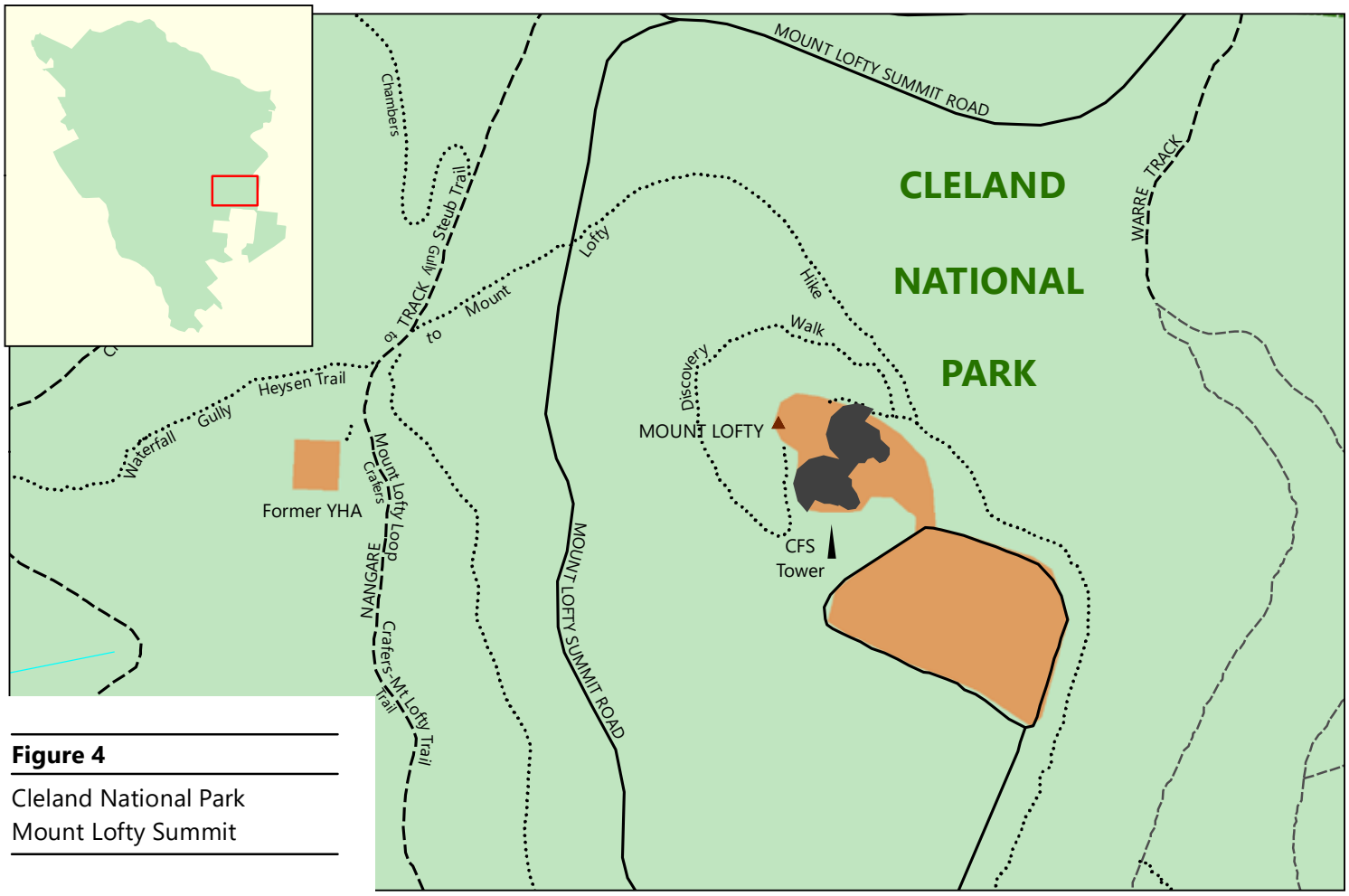


Figure 4

Cleland National Park
Mount Lofty Summit

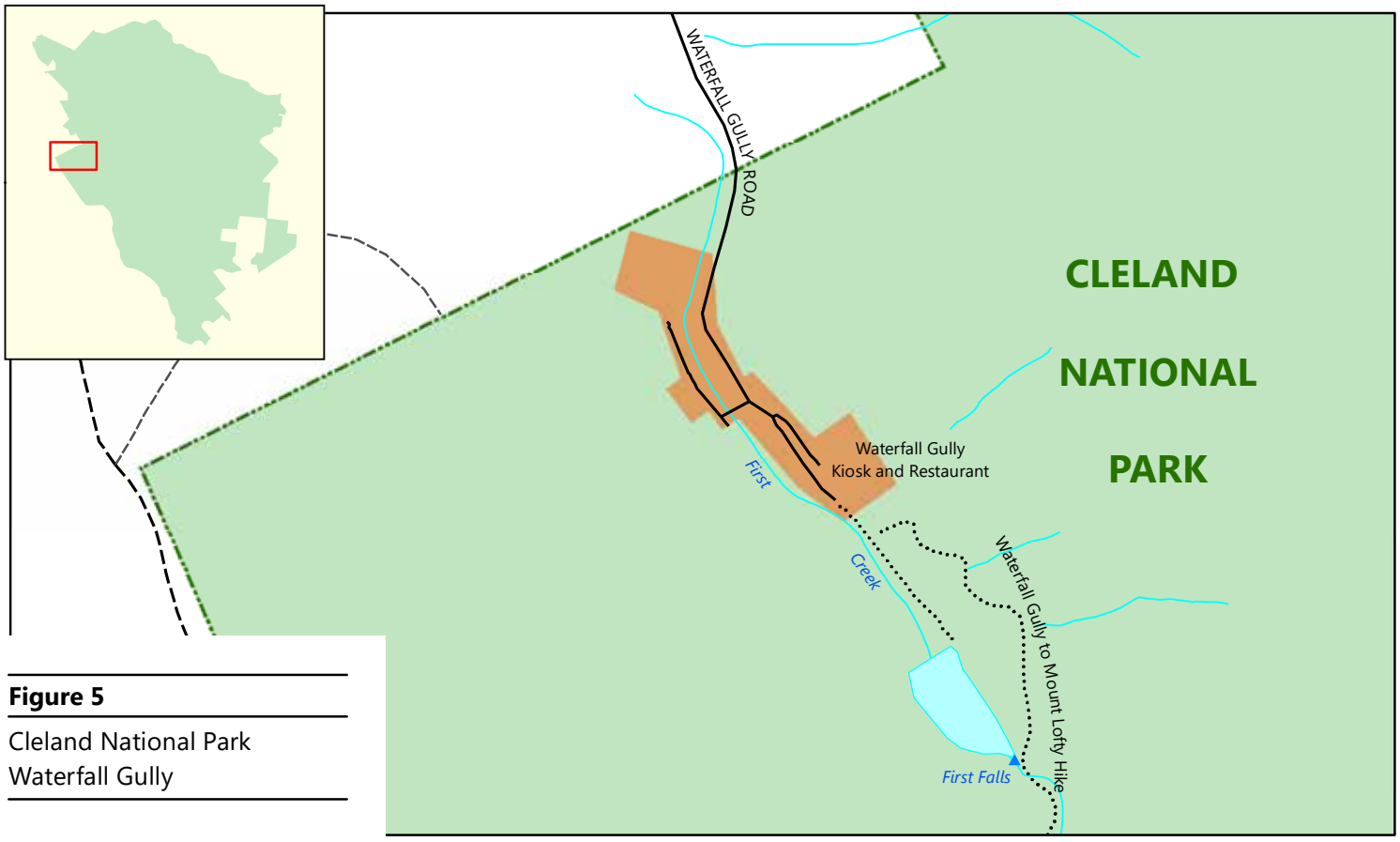
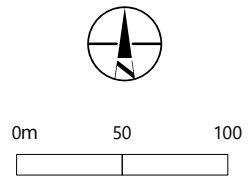
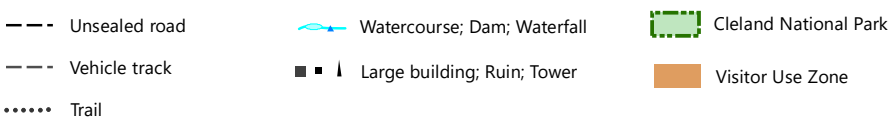


Figure 5

Cleland National Park
Waterfall Gully





Objectives and strategies

Promote walking and cycling trails that link visitor facilities across the park and provide opportunities for engagement with nature close to the city.

Provide facilities at Mount Lofty Summit and Waterfall Gully that support a range of opportunities for visitor activities.

- Undertake a risk assessment of cycling in the park that considers issues associated with biodiversity conservation, trail maintenance, use of shared trails and phytophthora spread, and use this to prepare a walking and cycling trail strategy that focusses on improving trail experiences while conserving areas of high biodiversity value.
- Maintain and upgrade a network of high-quality walking and cycling trails that maximise public enjoyment and reduce the risk of phytophthora spread and other environmental impacts.
- Close and monitor redundant and unsustainable legacy trails in the park.
- Approve commercial events and activities that foster community connection with the environment and limit visitor impact.
- Provide facilities within the Visitor Use Zones at Mount Lofty Summit and Waterfall Gully that support a range of opportunities for visitor activities (refer to Figures 4 and 5), ensuring infrastructure and provision of car parking is adequate to service visitor demand.
- Investigate opportunities for the use of the former Youth Hostel Building.
- Maintain natural areas within Visitor Use Zones to maintain their ecological integrity and value to lessees and visitors while achieving fuel load reduction and fire management objectives.
- Investigate opportunities to promote lesser-used entrance points supported by appropriate facilities, to spread visitor load across the park and improve access and connectivity to the surrounding areas.
- Investigate opportunities to create trails and other visitor experiences which provide universal and equitable access for all ages and abilities.
- Ensure adequate infrastructure is available to support future visitor numbers and development within the Wildlife Park Zone and the Visitor Use Zones.
- Provide interpretation to increase visitor awareness of First Nations heritage, connection to Country, and cultural values.
- Investigate opportunities to amend State Heritage regulations for Cleland National Park to allow for minor building works which have no relevance to the heritage listing, such as minor alterations on existing buildings of low heritage value, without the requirement for a development application.

THEME 4:
Managing fire

Fire has always been a major factor in shaping the Mount Lofty Ranges landscape, and has played a critical role in maintaining the ecological diversity of the region for thousands of years. Much of this is due to the land management and fire techniques of the Kaurna and Peramangk people. However, altered fire regimes since European colonisation in addition to land clearing, introduced pest plants and urban development, have increased the potential impacts of bushfire in the region. Climate change is exacerbating this, causing hotter and drier conditions and more frequent dangerous fire weather. This poses threats to human safety, property and the ecological succession requirements of native flora and fauna.

Managing fire is a key objective of park management. The Mount Lofty Ranges presents one of the state's most challenging conditions for fire management, both as a tool for maintaining and enhancing ecological diversity, and reducing the risk of bushfires.

Bushfire risk at Cleland National Park is heightened by its close proximity to dense residential areas and requires a focus on fuel reduction to minimise the risk of bushfires impacting the park, visitors and the surrounding residents. Reducing bushfire fuels can significantly contribute to reducing the frequency and scale of large bushfires. Fuel reduction techniques include mechanical and chemical fuel modification and prescribed burning. These techniques are used in partnership with increased response and suppression abilities through the construction of new fire access tracks, water infrastructure and exit points and the maintenance and enhancement of existing fire infrastructure. The fire management plan for the park will provide guidance on how to reduce the risk of bushfire most effectively.

Visitor safety from bushfires is paramount. At Cleland Wildlife Park, 1,000 animals and up to 1,200 visitors can be on site at any time, including tourists, children, elderly people and people living with disability. The Cleland Wildlife Park Site Bushfire Response Plan is reviewed annually and describes roles and responsibilities, site evacuation processes and fire suppression infrastructure.

Improving the bushfire resilience of existing and future built assets to increase the protection of people sheltering in place from bushfire is a key strategy for reducing risk. The location, design and surrounding landscape architecture of any new development in the park should be directly informed by the Australian Standard AS 3953, national fire management best practice considerations, and requirements under the *Fire and Emergency Services Act 2005*.

Reduction of fuel loads for visitor and community safety must be balanced with ecological needs. The fire management plan for the park will identify and consider how ecological communities and species respond to fire so that fire regimes meet the needs of those communities and species. For example, the heathlands in Cleland require periodic burning to regenerate and support endangered species (see Theme 1). Many threatened plant species in the bogs such as the naked sun orchid (*Thelymitra circumsepta*) are also highly fire dependant and have responded well in the past to targeted burning. In the fragmented habitat of the Mount Lofty Ranges, there is an increased risk of localised extinction if a fire burns entire habitat patches. This is especially relevant for hollow dependent species such as the yellow-tailed black cockatoos (*Zanda funerea*) whose hollowed habitats can take more than 200 years to form. This supports the need for targeted ecological burning in balance with the reduction of fuel loads to reduce the risk of large, uncontrolled bushfires burning entire habitats.

Objective and strategies

Manage bushfire risks to visitors and the community while maintaining or improving biodiversity values.

- Maintain and improve the fire management plan using technology and science to identify fire management zones to achieve risk mitigation objectives, while considering ecological fire regime needs.
- Utilise prescribed burning to manage an adequate proportion of heathy habitats at their optimal fire age class for fire-dependent species including chestnut-rumped heathwren and southern brown bandicoot.
- Conduct prescribed burns as necessary to minimise impact and likelihood of uncontrolled bushfires.
- Coordinate fuel load management activities with neighbouring landholders, local government and the Country Fire Service to reduce bushfire risk.
- Maintain high quality fire access tracks, water access points and other fire management infrastructure, and where appropriate create new fire management infrastructure.
- Ensure fire risk is a key consideration for appropriate sighting of any new development on the park.
- Support and advocate Indigenous lead knowledge and skills in fire management.
- Facilitate further research and monitoring into the effects of fire on local ecosystems.
- Adapt strategies in response to all planned and unplanned fire in the park, particularly when conservation priorities are affected.
- Explore opportunities to incorporate cultural burning practices in fire management activities with First Nations groups.

THEME 5:
Collaborating to progress shared outcomes

The Friends of Cleland Conservation Park have been active in the park for more than 25 years, undertaking weed control, ecological monitoring and tree planting. Their work contributes substantially to enhancing the condition of the park and increasing knowledge about the animal and plant species present. Cleland Wildlife Park volunteers also form an important stakeholder, providing an invaluable service in helping to conserve the park's natural surrounds and assisting in the care of our animals. These volunteers are often the public face of Cleland Wildlife Park.

Cleland National Park is an integral piece of the Mount Lofty Ranges landscape. While management of threats to protected features within the park is the priority, the park's context within the wider landscape must also be considered and actively managed. Threats including fires, pest species and pollution act without regard to park boundaries. Therefore, park managers need to work in collaboration with partners to achieve optimal conservation outcomes.

An integrated landscape approach to fire management is essential to cater to the needs of local species. Liaising with nearby landowners and local government about the timing of prescribed burns will help cater to the varying habitat and fire requirements of all species.

First Nations people have occupied land within the Cleland National Park for tens of thousands of years, with the park forming a shared boundary and meeting place of the Kaurna and Peramangk people. Ongoing collaboration with First Nations people will help promote and strengthen this existing cultural connection.

Monitoring and research of ecological communities and species in the park is a priority for multiple groups. Park management should encourage and coordinate work done by Friends of Parks groups, environmental NGOs, other volunteers, researchers and the wider community to ensure each group builds upon the efforts of others.

Many of the weeds that threaten Cleland National Park are spread easily through the landscape. Targeted weed management conducted within the park is unlikely to be successful unless continued within the wider landscape and particularly on adjoining properties.

Objective and strategies

Work collaboratively with partners to provide a consistent approach to threat management.

- Encourage and work collaboratively with Friends of Parks groups, environmental NGOs, landscape boards, the community and researchers to monitor and manage wildlife and ecosystems to achieve conservation objectives.
- Work with adjoining landowners and land managers to limit the impact of neighbouring land uses on conservation values by encouraging them to adopt weed control approaches similar to those carried out within the park.
- Collaborate with neighbours and local government to deliver fuel load management actions.
- Recognise regional priorities within park management strategies to contribute to landscape outcomes.
- Work with First Nations groups to ensure park management reflects and supports a strong cultural connection with Country.

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