

Mount Coolum National Park



Management Plan
2019

Prepared by: **Queensland Parks and Wildlife Service, Department of Environment and Science**

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1. Introduction

QPWS and Partnerships work with First Nations Peoples to ensure the protection of Country and culture. We pay our respects to all peoples, and to the Elders past, present and future, for land and sea on which we work, live and walk.

1.1 Approach to best practice management

Queensland's parks, forests and reserves are places we want to protect for future enjoyment and wellbeing. What makes these places special is the presence and diversity of natural, cultural, social and economic values. These areas experience natural cycles—they live and breathe—and therefore our management needs to be dynamic too. QPWS and Partnerships (QPWS&P), within the Department of Environment and Science (DES), applies a contemporary management process based on international best practice, and targets management of the most important features of each park: their **key values**.

The **Values-Based Management Framework** (VBMF) is an **adaptive management** cycle that incorporates planning, prioritising, doing, monitoring, evaluating and reporting into all areas of our business. This enables QPWS&P to be more flexible and proactive, and to improve management effectiveness over time. We want to keep our parks, forests and reserves healthy by:

- managing and protecting the things that matter most—our key values
- strategically directing management effort towards priorities
- delivering our custodial obligations as a land manager
- setting a level of service for all parks, forests and reserves
- building systems that support decision making for adaptive management
- building support for what we do through accountability and transparency
- striving for improvement through structured learning and doing.

As a land manager, QPWS&P has a **custodial obligation** to ensure our estate is managed to provide appropriate and safe access, protect life and property, be a good neighbour and work cooperatively with partners across the landscape. The agency does this as part of setting **levels of service** for each park. As a management standard, levels of service consider an area's values, threatening processes, custodial obligations, risks and overall management complexity.

By assessing an area's key values and levels of service, QPWS&P can prioritise management efforts, and balance the importance of values and threats with our custodial obligations. Each year, we track work programs, monitor the condition of values, and evaluate our performance across all aspects of management. The evaluation process documents how efficiently and effectively we are working toward achieving the objectives we set for managing parks, forests and reserves, and how the condition of key values is changing in response to our management efforts. This evaluation supports transparent and accountable reporting, enabling us to continuously improve park management and demonstrate outcomes to the community.

Figure 1 illustrates phases of the VBMF cycle for management planning. A glossary of the key concepts (in **bold**) used throughout the document is listed in Appendix 2.

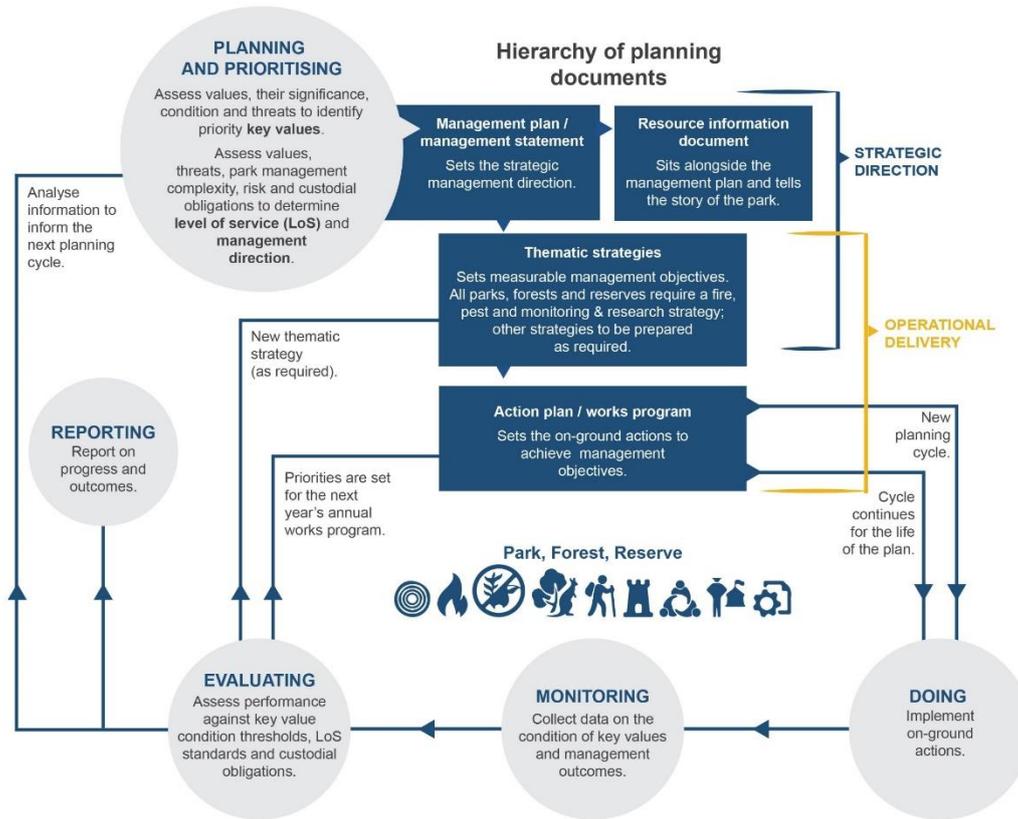


Figure 1. Phases of the VBMF cycle for planning and the hierarchy of planning documents

1.2 Management planning

Management plans and statements are developed through research, assessment and consultation to establish priorities and set **strategic management direction** for a park. They are legislative requirements under the *Nature Conservation Act 1992* (Qld). Some planning areas may include forest and reserves (*Forestry Act 1959* (Qld)) and marine parks (*Marine Park Act 2004* (Qld)). All plans are prepared in keeping with legislation’s management principles, supporting regulations, government policies and procedures, and international agreements. Planning for each park is brought together and communicated through a number of planning documents:

- Management plans and management statements provide the high-level strategic direction for managing an area’s key values, levels of service and custodial obligations. Management plans and statements are statutory documents and are generally reviewed every 10 years.
- Resource information documents support management plans and statements and provide a compendium of park information that tells the story of a park. These documents accompany management plans and management statements, providing contextual information. They support information provided in the plan but do not provide management direction.
- Thematic strategies provide specific objectives to achieve the strategic management directions identified in management plans and statements. While all parks and forests require a fire strategy, pest strategy and a monitoring and research strategy, others are developed based on a protected area’s management requirements and priorities. Thematic strategies are generally reviewed every three to five years to enable adaptive management.
- Action plans outline the work program for delivering on-ground actions.

Further information on the VBMF, copies of management plans/statements and resource information documents are available on the department’s website at www.des.qld.gov.au

2. Kabi Kabi First Nation

Connection to Country statement

By Kabi Kabi First Nation

Mount Coolum National Park lies within the lands of the Kabi Kabi First Nation. As Traditional Owners, we advocate a means of representing Kabi Kabi peoples' interests in the estate. Mount Coolum is important to Aboriginal people and many of the wider community; it is a very spiritual place within the southeast Queensland songlines network.

Our task is to ensure we are no longer invisible on our own estate. We must develop spheres of influence across the political, business, community and non-government sectors to make our interests a priority. Engagement means working with our own Kabi Kabi peoples, so they have the knowledge they need to act as responsible modern stewards of our estate. It is not only about free, prior and informed consent for decision-making – it is about encouraging maximum participation and enjoyment of our rights and interests, whether we live on Country or elsewhere.

Mount Coolum Dreamtime Story

Kabi Kabi People Legend provided by Kabi Kabi First Nation

Well, legend has it that a young Aboriginal warrior called Coolum was in love with Maroochy, a beautiful girl from his tribe. All was well as the tribal elders had approved their union. However, one day, a warrior called Ninderry from another tribe kidnapped Maroochy while Coolum was out hunting.

The two warriors engaged in an epic battle for Maroochy, and while fighting, Ninderry struck Coolum with a club, knocking his head right off. Coolum's headless body turned to stone, forming what is now known as Mount Coolum, and his head rolled into the sea and became Mudjimba Island.

The spirit gods were so incensed by Ninderry's behaviour (his interference in the approved union of Coolum and Maroochy and killing of Coolum) that they turned Ninderry to stone and he became Mount Ninderry.

On learning of what had happened to her beloved Coolum, Maroochy fled inland to the Blackall Ranges, where she wept so much her tears flooded down the mountain range to the sea, forming the Maroochy River.

Maroochy resolved to locate Coolum's spirit, and so she transformed herself into a swan so she could travel up and down the river to search for her lover's spirit.

The whole of Mount Coolum National Park is a recorded 'Significant Aboriginal area' under the *Aboriginal Cultural Heritage Act 2003*, reflecting the importance of the area to the Kabi Kabi people. Places of significance across this area include story places, intangible places, artefact scatters, historical places and scar trees.

The high visitor numbers to Mount Coolum National Park may impact upon these places as well as on Aboriginal law and practices. The Kabi Kabi people do not wish to see any new toilet facilities built on Mount Coolum National Park.

Caves, stone arrangements and burial sites within the estate are of very high spiritual and cultural significance. Kabi Kabi lore restricts access to these areas out of respect. Due to the significance of Mount Coolum, the Kabi Kabi people would like all visitors to show their respect for the mountain by not

climbing. Through community education, consultation and campaigns, Kabi Kabi will work towards this aspiration over the next 15 to 20 years.

Desired outcomes and strategic management directions

Desired outcome		
The relationship with the Kabi Kabi First Nation People and the protection of their cultural heritage will be managed by improved knowledge and partnership, recognising their Connection to Country, and their role in managing and protecting the park's natural, cultural heritage values.		
Consideration	Strategic management direction	Priority
Loss of Connection to Country	Support incorporating Kabi Kabi traditional practices into park management	1
Fire	Improve knowledge of traditional practices, such as burning	1
Visitor	Strengthen the engagement with Kabi Kabi and the Australian Climbing Association (QLD) Inc. about future management of rock climbing	1
Visitor	Minimise visitor impacts, caused by trampling and people walking off designated tracks and lookouts, on Kabi Kabi cultural heritage on Mount Coolum	1
Community education	The cultural significance of Mount Coolum National Park is communicated to visitors through signage, message sticks and on park open days	1
Loss of connection to country	Increase support and provide opportunities for Kabi Kabi to get back on Country on Mount Coolum National Park	1

When planning and implementing activities on Mount Coolum National Park (such as capital works), QPWS&P meets all requirements of *Aboriginal Cultural Heritage Act 2003*, including undertaking cultural heritage assessments and engaging the expertise of the Kabi Kabi people.

3. Mount Coolum National Park

3.1 Management plan and thematic strategies

The *Mount Coolum National Park Management Plan* provides the strategic direction for managing its key values (section 4) and meeting our custodial obligations across eight **management themes** (section 5). The plan is supported by the *Mount Coolum Resource Information* document, a compendium of park information that tells the story of the park. The strategic management direction set out in this management plan links to a set of thematic strategies that detail management objectives, providing connection between high-level strategies and on-ground operations. The complexity of a park’s values and custodial obligations determines the requirements for specific strategies. Mount Coolum National Park has four thematic strategies:

- Fire Strategy
- Pest Strategy
- Visitor Strategy
- Monitoring and Research Strategy



Figure 2. Locality map: Mount Coolum National Park

3.2 Park overview

Mount Coolum National Park is located in southeast Queensland, approximately 140km north of Brisbane (Figure 2). At a height of 208m, Mount Coolum is a prominent local landmark, rising above the surrounding flat coastal plains. Mount Coolum is a laccolith, formed about 26 million years ago when a dome-shaped bulge of magma cooled below the Earth’s surface.

For Kabi Kabi First Nation people and the wider community, Mount Coolum is a very powerful place within the southeast Queensland songlines network.

Declared on 17 November 1990, the park reflected the community’s increasing interest and recognition of the park’s significant values. The Maroocha Section, encompassing part of Coolum Creek and Lower Maroochy River, was added in 2001. These additions increased the park’s area to 367.24ha, further enhancing the conservation of coastal and open forest communities that have disappeared due to rapid development on the Sunshine Coast.

Mount Coolum National Park contains a wide range of plant communities that have largely disappeared from southeast Queensland. The park is one of few places where montane and coastal heath ecosystems still grow. These characteristics mean the park plays an essential role in providing habitat and refuge for remnant populations of species unable to survive in the surrounding highly modified and urbanised landscape.

The Maroocha Section is part of a sinuous and fragmented group of wetlands comprising marshes, swamps, estuary and sub-coastal tributaries. They are listed under the Directory of Important Wetlands in Australia.

The summit of Mount Coolum has become an increasingly popular walk, providing sweeping views of the coastal area, including Moreton Island to the east and the Glass House Mountains to the south.

4. Key values

All parks, forests and reserves have an array of natural, cultural, social and/or economic values that are important and contribute to the state’s comprehensive and representative protected area and forest estate. The VBMF supports a process for identifying and protecting the most important values, the key values, and this directs the allocation of resources.

In this section, a **key value statement** is provided for each key value, identifying the current **condition and trend**, and a desired condition. The main threatening processes are identified and rated from high to low. A strategic management direction provides a broad strategy to address the threatening process to achieve the **desired outcome** over time. Each strategic management direction is prioritised according to the need for action to prevent further decline, stabilise current condition, or restore and enhance the value (refer to **priority rating** in Appendix 2).

The condition of all key values is (or will be) assessed through regular **health checks** or other monitoring. The monitoring and research strategy outlines opportunities and needs for scientific monitoring and research programs that will enhance our knowledge. Any change to a key value’s condition will be identified through health checks and/or monitoring, enabling QPWS&P to act quickly, applying best practice adaptive management.

Summary of Mount Coolum National Park’s key values

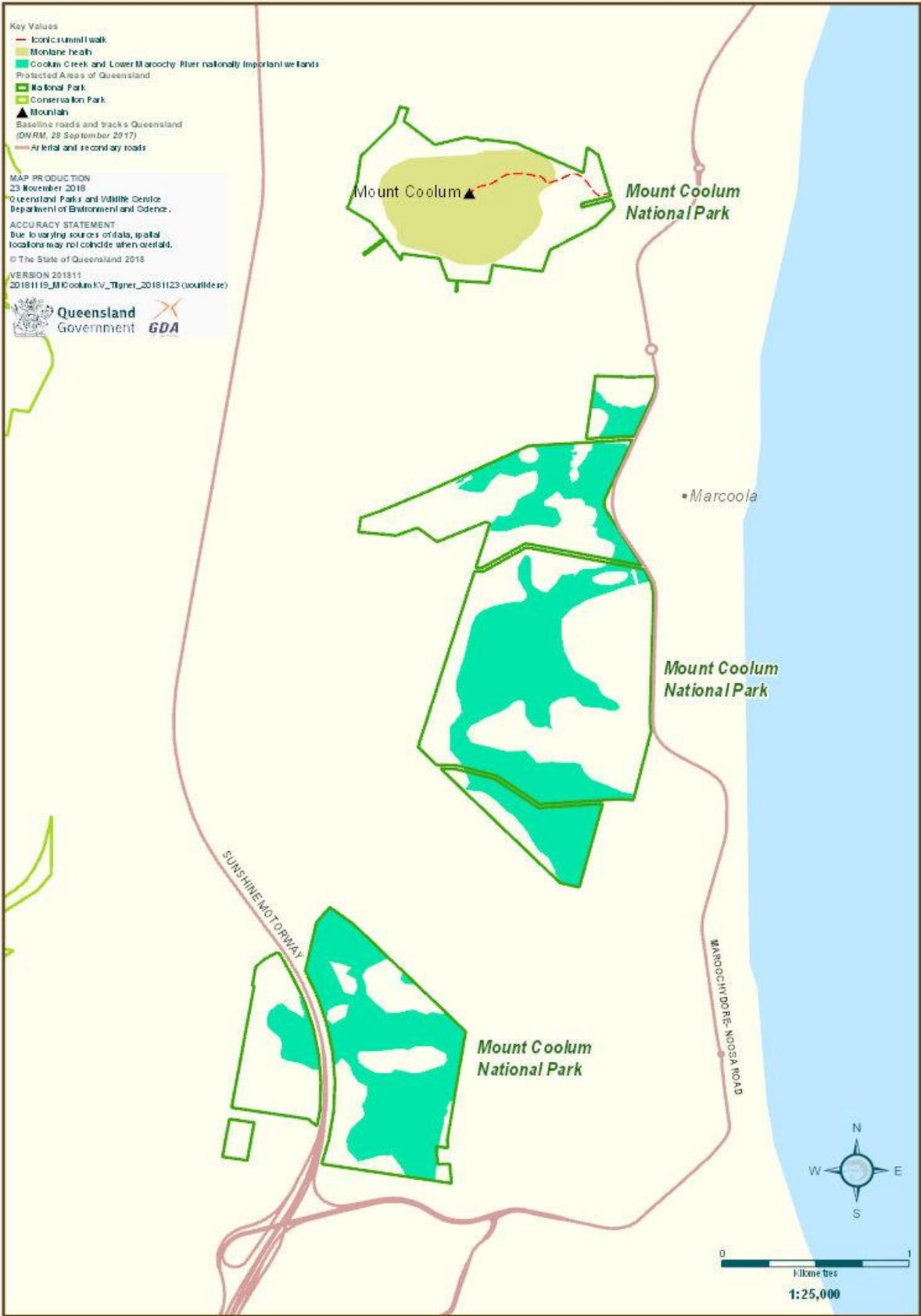
A summary of the key values for Mount Coolum National Park is detailed below. The location of each key value is shown in Map 1; Figure 3 provides a key to interpreting the condition and trend icons used in this section.

	Current condition	Confidence in condition assessment	Current trend	Confidence in trend assessment	Desired condition
4.1 Coolum Creek and Lower Maroochy River nationally important wetland (Marcoola Section)		Limited		Limited	
4.2 Montane heath		Limited		Limited	
4.1 Coolum Creek and Lower Maroochy River nationally important wetland (Marcoola Section)		Limited		Limited	

Figure 3: Key to condition, trend and confidence icons

Condition of key value	Good The value is in good condition and is likely to be maintained for the foreseeable future, provided that current measures are maintained	Good with some concern The value is likely to be maintained over the long-term with minor additional conservation measures to address existing concerns	Significant concern The value is threatened by a number of current and/or potential threats. Significant additional conservation measures are required to preserve the value over the medium to long-term	Critical The value is severely threatened. Urgent additional large-scale conservation measures are required, or the value may be lost
Trend rating of condition	Improving 	Stable 	Deteriorating 	No consistent trend
Confidence in assessment	Inferred 	Limited 	Adequate 	

Map 1: Mount Coolum National Park key values



4.1 Coololum Creek and Lower Maroochy River nationally important wetland (Marcoola Section)

Directory of Important Wetlands in Australia

The Coololum Creek and Lower Maroochy River wetlands are significant for their representativeness, their high value to wildlife and ecosystems, the provision of refuge habitat, and very high cultural significance (especially for education and recreation). The integrity, size and connectivity of remnant patches vary markedly with location. Most remnant vegetation stands vary from 10 to 100ha and are usually connected to other wetland community types. Seventeen regional ecosystems are found in the mapped wetland area. Eleven of these have conservation status. Four ecosystems are 'endangered'. The Coololum Creek, Lower Maroochy River and sections of Eudlo Creek provide tall wet or open and wet heath or littoral forests and shrubland habitat for 361 recorded species.

Key value statement

Description		Current condition	Current trend	Desired condition
Wet heathland and associated rare and threatened fauna and flora	Condition and trend	2017 ●●●●	↓	●●●●
	Assessment confidence	Limited Ⓧ	Limited Ⓧ	

The restricted wet heathland associations described as regional ecosystem (RE) *closed heath on seasonally closed waterlogged sand plains* (RE 12.2.12) are particularly significant for conservation. This ecosystem is one of few remaining coastal areas supporting the vulnerable ground parrot *Pezoporus wallicus wallicus* and several wallum frogs, including the vulnerable wallum froglet *Crinia tinnula*, wallum sedgefrog *Litoria olongburensis* and the wallum rocketfrog *Litoria freycineti*. A population of the endangered Emu Mountain she-oak *Allocasuarina emuina* is located in the Marcoola Section. The Marcoola Section of the park is largely waterlogged or inundated, with swamps usually less than one metre deep. These wetland systems are not well represented in other parks, have high value to wildlife and ecosystems, and provide refuge habitat.



Image 1. The vulnerable ground parrot *Pezoporus wallicus wallicus* © Dave McFarland, DERM

Threats

Primary threat: Difficulty in managing planned-burn fire regimes (due to challenges presented by the peri-urban environment) resulting in changes to species structure and composition, and age-class vegetation structure of the ecosystem. **Threat rating: High**

Secondary threat: Invasive grasses (such as whiskey grass) alter fire intensity and have the potential to invade along roads and public utility corridors. **Threat rating: Medium**

Other threat: Future expansion of the airport is a significant threat to the Marcoola Section of the park, particularly damaging to the acid frog's specialised breeding requirements and other microhabitats (reed beds and sedges). **Threat rating: High**

Other threat: Predation from cats could impact on ground parrot, by destroying eggs and chicks during the parrot's breeding season. **Threat rating: Medium**

Other threat: Illegal vehicle access and other recreational uses have the potential to impact on sensitive wetland ecosystems. **Threat rating: Low**

Desired outcome and strategic management direction

Desired outcome		
Threatening process	Strategic management direction	Priority
 The condition of wet heath will be improved to <i>good</i> through proactive fire management and reducing the impacts of invasive grasses and pest animals.		
Fire	Conserve coastal heath communities by providing structural and age class variation across the landscape through the targeted application of fire	1
Fire	Facilitate optimum ground parrot habitat and refuge by providing structural and age class variation across the habitat	1
Pest plants	Reduce impacts of invasive grasses within heath communities	2
Development	Monitor acid frog habitat to identify potential impacts from adjacent development	1
Pest animals	Reduce impacts of foxes and cats on ground parrots by implementing coordinated pest programs	2
Visitor impacts	Minimise visitor impacts on wetlands by restricting access	4

See Appendix 2. Glossary for priority rating definitions.

4.2 Montane heath

Key value statement

Description		Current condition	Current trend	Desired condition
The 'of concern' montane heath, which has a high level of species endemism	Condition and trend	2017 		Short term 
	Assessment confidence	Limited 	Limited 	Long term 

Montane heath on Cainozoic igneous rocks covers 34 per cent of the Mount Coolum Section. This community (RE 12.8.19) is listed as 'of concern' biodiversity status and is significant for conservation.

Harsh growing conditions see many endemic plant species only being found within this community, including *Leptospermum oreophilum* (vulnerable) and Mount Coolum bertya *Bertya sharpeana* (near threatened). Mount Coolum she-oak *Allocasuarina thalassoscopica* is restricted to an area of 8.2ha within Mount Coolum National Park. With a population of approximately 21,000 plants, this species is considered endangered.

Threats

Primary threat: Visitors seeking better views walk off the Mount Coolum summit track, trampling heath, widening tracks and creating informal trails. As informal trails become established, they cause accelerated erosion of the shallow soil profile on which heath grows. **Threat rating: Medium**

Secondary threat: Too frequent, high-intensity fire may reduce seedling recruitment, leading to altered age-class structure of vegetation. **Threat rating: Low**

Other threat: Invasive grasses alter fire intensity and vegetation community values and invade along formal and informal tracks. **Threat rating: medium.**

Desired outcome and strategic management direction

Desired outcome		
	The condition of montane heath will be improved to <i>good</i> in the long term, through managing visitor impacts and applying broad fire intervals	
Threatening process	Strategic management direction	Priority
Visitor impacts	Minimise visitor impacts to the summit track area by better defining track alignments and viewing opportunities	1
Fire	Conserve montane heath communities by providing structural and age class variation across the landscape through the targeted application of fire	2
Pest	Reduce impacts of invasive grasses on montane heath communities	2

See Appendix 2. Glossary for priority rating definitions.

4.3 Iconic summit track

Key value statement

Description		Current condition	Current trend	Desired condition
The short, steep and popular walk up Mount Coolum's summit track provides visitors with extensive views of the Sunshine Coast in all directions	Condition and trend			
	Assessment confidence	Limited 	Limited 	

Mount Coolum is a significant landmark on the Sunshine Coast: more than 240,000 people walk to its summit annually. Visitation is increasing yearly as people come to enjoy the bushland scenery and extensive views from the summit, or use the steep track, of a gradient usually only available further from the coast, for exercise.

The mid-slope sections of the summit track have been improved (e.g. rock surface and steps) to cater for rising visitor numbers, both residents and tourists to the Sunshine Coast. The upper section of the track requires attention to address visitor impacts.



Image 2. *Xanthorrhoea* on the side of the summit track, Mount Coolum. © R. Neumann

Threats

Primary threat: The increasing number of people using the summit track causes overcrowding along the track and at the summit, reducing the experience for some visitors. **Threat rating: High**

Secondary threat: Incompatible user groups (including large groups, fitness and commercial activities) reduce the experience for park users walking the mountain to relax and enjoy the natural environment and views. **Threat rating: High**

Other threat: Overcrowding leads to track erosion, scarring and impacts on montane heath communities and reduces scenic amenity of the park. **Threat rating: High**

Desired outcome and strategic management direction

Desired outcome		
Threatening process	Strategic management direction	Priority
	The condition of the Mount Coolum walking experience will be maintained at <i>good with some concern</i> , by managing visitor behaviour and protecting the montane heath	
Impacts on visitor experience	Enhance the experience of recreational walkers on the summit track, by reducing incompatible uses	3
Impacts on visitor experience	Enhance the experience of recreational walkers on the summit track through improved education of users, using interpretation to modify behaviour (such as staying on the designated tracks and not creating informal walking tracks)	2

See Appendix 2. Glossary for priority rating definitions.

5. Management direction

QPWS&P manages protected areas and forests to protect their values and deliver our custodial obligations as a land manager. Levels of service (LoS) assessment allows QPWS&P to consider the management of each park in a state-wide context and determine desired levels of management effort for each park in a consistent and equitable way. LoS assessment lets QPWS&P staff and the public know what type or level of management activity to expect on each park, forest or reserve. There are five LoS ratings ranging from 'acceptable' to 'exceptional': an acceptable rating is the minimum standard required to deliver good management and meet our legislative and custodial obligations.

The key areas for management in Mount Coolum National Park are the aspirations for Kabi Kabi First Nations people to manage their traditional country, fire, visitors and the interest of our community and partners. This section provides a **management direction statement** for each management theme, identifying its current LoS, desired LoS and the strategic management direction for management.

Summary of Mount Coolum National Park's management direction

A summary of the current and desired LoS for Mount Coolum National Park is shown below; Figure 4 provides a key to the LoS icons.

	Current LoS	Desired LoS
1. Fire management	 High	 Very high
2. Pest management	 Medium	 Medium
3. Natural values management	 High	 High
4. Historic cultural heritage management	 Acceptable	 Acceptable
5. Visitor management	 Medium	 High
6. Community, partnerships and other interest	 High	 Very high
7. Field management capability	 High	 High
8. Operational planning and management support	 High	 High

Figure 4: Key to level of service icons



5.1 Fire management

Management direction statement

Description	Current level of service
Fire management for Mount Coolum National Park	

Fire management is core business for QPWS&P to protect life and property, mitigate wildfires and maintain natural diversity in accordance with the *Nature Conservation Act 1992* (Qld) (NCA), and the *Fire and Emergency Services Act 1990* (Qld) to control and prevent fires. QPWS&P works cooperatively with First Nations Peoples, State and local government agencies, rural fire brigades, adjoining landholders, and local communities to manage fire across the landscape.

The strategic management directions in this management plan, combined with Kabi Kabi First Nations People’s knowledge of traditional burning practices and the Queensland Government’s *Planned Burn Guidelines: Southeast Queensland Bioregion of Queensland*, will guide the formation of the *Mount Coolum National Park Fire Strategy*.

The strategy details QPWS&P’s custodial obligations for protecting life and property, and fire management objectives for maintaining key values by using fire management zones.

Desired level of service and strategic management direction

Desired level of service	
	Fire will be managed to a <i>very high</i> LoS, through structured stakeholder engagement and a strategic approach to management, to protect high natural values associated with heath communities, and reduce risks to life and property associated with surrounding residential areas.
Strategic management direction	
Priority	

Custodial obligations:

Protect, to the highest extent possible, the communications infrastructure on Mount Coolum from the impacts of severe wildfire	1
Mitigate the potential severity and impacts of wildfire on the neighbouring residential properties	1
Support the re-establishment of traditional practices by incorporating them into park management	1
Improve knowledge of traditional practices such as burning	1
Increase support and provide opportunities for Kabi Kabi to get back on Country on Mount Coolum National Park	1

Level of service:

Maintain knowledge of fire values requirements of wet heathland, particularly for ground parrot habitat and Mount Emu she-oaks	2
Improve the community’s understanding of fire management in a coastal heath landscape and how information is communicated during planned burns and high fire danger periods	2
Improve how QPWS&P engages with agencies responsible for land management surrounding the park, by conducting regular meetings, updates and communications to ensure planned burns occur within required timeframes	3
Maintain current resource commitment to delivering a planned burn program	1

*KEY: Priority ratings: M – maintain current priorities; Scale 1 (extremely urgent and extremely necessary) to 5 (optional and not urgent).

5.2 Pest management

Management direction statement

Description	Current level of service
Pest management for Mount Coolum National Park	

Pest management is core business for QPWS&P to mitigate the threats to biodiversity in accordance with the NCA. QPWS&P has a responsibility under the *Biosecurity Act 2014* (Qld) to take all reasonable and practical steps to minimise the risks associated with plant and animal pests on lands under our control. Recognising that effective management of pests across the landscape is a shared responsibility, QPWS&P works cooperatively with First Nations Peoples, other state and local government agencies, landholders and natural resource management groups.

The strategic management direction in this management plan guides the formation of the *Mount Coolum National Park Pest Strategy*. The strategy details pest management objectives for preventing and mitigating pest impacts on key values, and QPWS&P's custodial obligations for managing pests and priority pest species.

Desired level of service and strategic management direction

Desired level of service	
	Pest management will be maintained to a <i>medium</i> LoS, through coordinated cross-landscape pest programs, to protect the high natural values.
Strategic management direction	Priority
Custodial obligations:	
Improve knowledge of traditional practices including pest control	1
Increase support and provide opportunities for Kabi Kabi to get back on Country on Mount Coolum National Park	1
Level of service:	
Improve knowledge of current and emerging pests (location, extent, impacts and issues)	2
Maintain the coordination of cross-landscape pest management programs that target protection of key values	2
Maintain engagement with Kabi-Kabi First Nation on pest management programs	1
Continue to engage with Queensland Electricity Supply Industry (QESI) representatives on pest management along power line corridors	3
Maintain management capacity and the level of priority for pest management activities	2

*KEY: Priority ratings: M – maintain current priorities; Scale 1 (extremely urgent and extremely necessary) to 5 (optional and not urgent).

5.4 Natural values management

Management direction statement

Description	Current level of service
Natural values management for Mount Coolum National Park	

QPWS&P manages natural values in accordance with the NCA, *Environmental Protection Act 1994* (Qld), *Environmental Protection and Biodiversity Conservation Act 1999* (Cwlth), and relevant international agreement guidelines.

Mount Coolum National Park has significant values including endangered regional ecosystems, threatened species and species listed in international agreements. National recovery plans guide management for wallum-dependent frog species and the Mount Emu she-oak *Allocasuarina emuina*, both found within Mount Coolum National Park. The condition of natural values will be monitored by implementing the Mount Coolum National Park Monitoring and Research Strategy.

Threatening processes will be managed through implementing the Mount Coolum National Park Fire Strategy, Mount Coolum National Park Pest Strategy, and Mount Coolum National Park Visitor Strategy.

Desired level of service and strategic management direction

Desired level of service	
	Natural values will be managed at a <i>high</i> LoS, through a strategic approach to maintaining knowledge and monitoring, to protect significant species associated with heath communities.
Strategic management direction	
Level of service:	
Improve knowledge through continued survey work of the range and composition of the park's plant communities	4
Improve consultation by continuing to liaise with research institutions and interest groups to encourage and support surveying and monitoring programs, particularly research into the ecology and management requirements of threatened species	4
Maintain current approach to natural values management by continuing to meet recovery plan objectives for the Wallum sedgefrog <i>Litoria olongburensis</i> and Mount Emu she-oak <i>Allocasuarina emuina</i>	3
Health check monitoring:	
Monitor the condition of natural key values through health check monitoring	1

*KEY: Priority ratings: M – maintain current priorities; Scale 1 (extremely urgent and extremely necessary) to 5 (optional and not urgent).

5.5 Historic cultural heritage management

Management direction statement

Description	Current level of service
Historic cultural heritage management for Mount Coolum National Park	

QPWS&P manages historic sites in accordance with the NCA, *Queensland Heritage Act 1992* (Qld) and *Historic Shipwrecks Act 1976* (Cwlth).

Mount Coolum National Park resides in an area that was settled by Europeans in the 1800s. No sites are listed on the Queensland Heritage Register or Australian National Heritage List.

Desired level of service and strategic management direction

Desired level of service	
	Historic cultural heritage values will be managed to an <i>acceptable</i> LoS, through maintaining known sites, values and stories, to conserve limited historic values.
Strategic management direction	Priority
Level of service: Maintain knowledge of historic sites, values and stories	
	5

*KEY: **Priority ratings:** M – maintain current priorities; Scale 1 (extremely urgent and extremely necessary) to 5 (optional and not urgent).

5.6 Visitor management

Management direction statement

Description	Current level of service
Visitor management for Mount Coolum National Park	

Queensland’s parks, forests and reserves provide local communities and visitors from around the world with opportunities to experience our rich natural and cultural heritage, as well as a diverse range of recreational and ecotourism opportunities. QPWS&P seeks a responsible balance between conserving natural and cultural values and providing sustainable nature-based experience in accordance with the NCA, *Aboriginal Heritage Act 2003* (Qld) and government policies and procedures. Permitted commercial tour activities, agreements and events are administered in accordance with the NCA and other relevant legislation. QPWS&P will identify, assess and manage hazards to visitor safety in accordance with relevant safety obligations.

The strategic management direction in this management plan guides the formation of the *Mount Coolum National Park Visitor Strategy*. The strategy details management objectives for key values and the desired management outcomes for visitor sites through zoning. Zoning and visitor site management objectives consider the physical, social and managerial impacts of the visitor experiences and sustainability of the sites; visitor strategies clearly state the desired site capacity to provide a diversity of experiences for visitors and achieve site sustainability. The strategy also explores visitor opportunities that complement other experiences in the landscape and region.

The condition of visitor sites and visitor satisfaction with park experiences will be monitored by implementing the *Mount Coolum National Park Monitoring and Research Strategy*.

Desired level of service and strategic management direction

Desired level of service	
	Mount Coolum will be managed at a <i>high</i> LoS for visitor management due to the significant number of visitors, its status as a regional tourism destination, and the need to conserve the high natural and cultural values.
Strategic management direction	Priority

Level of service:

Improve knowledge of visitor use by monitoring visitor numbers and their satisfaction with the visitor experience	2
Improve the level of engagement with park users, by improving communication with different user groups	3
Improve visitor management by developing a proactive approach to track maintenance, including monitoring of new informal tracks	1
Investigate opportunities to improve visitor experience at Mount Coolum National Park	1

Health check monitoring:

Monitor the condition of visitor key values through health check monitoring	1
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*KEY: **Priority ratings:** M – maintain current priorities; Scale 1 (extremely urgent and extremely necessary) to 5 (optional and not urgent).

5.7 Community, partnerships and other interests

Management direction statement

Description	Current level of service
Community, partnerships and other interests associated with Mount Coolum National Park	

Queensland's parks, forests and reserves provide sustainable environmental, economic and social benefits. The agency is committed to working with its partners and the community to ensure activities and infrastructure are ecologically sustainable and continue to benefit Queensland's economic and social wellbeing as outlined in Queensland Parks and Wildlife Service's Master Plan (QPWS, 2014). Permitted activities are administered in accordance with the requirements of the NCA and other relevant legislation.

QPWS&P is committed to enhancing the partnership with Kabi Kabi, local community groups, recreational associations and the Sunshine Coast Regional Council.

Desired level of service and strategic management direction

Desired level of service	
	Community, partnerships and other interests will be managed to <i>very high</i> LoS through a more strategic approach to communication with community and adjoining land managers.
Strategic management direction	Priority

Level of service:

Improve the current approach to consultation by formalising engagement with other land managers to improve the communication of key park management requirements, particularly fire and drainage management	2
Maintain the current approach to consultation by continuing to involve local residents and conservation groups in park management, and to engage with neighbours, particularly about fire and garden waste dumping	2
Strengthen the engagement with Kabi Kabi and the Australian Climbing Association (QLD) Inc about the future management of rock climbing	1
Increase support and provide opportunities for Kabi Kabi to get back on Country on Mount Coolum National Park	1

*KEY: Priority ratings: M – maintain current priorities; Scale 1 (extremely urgent and extremely necessary) to 5 (optional and not urgent).

5.8 Field management capability

Management direction statement

Description	Current level of service
Field management capability for Mount Coolum National Park	

Managing natural and cultural areas has varying degrees of complexity. Field management capability is a measure of this complexity and considers the significance of the planning area’s values, potential threats, intensity of visitor use and community expectations. It considers the required proximity, frequency and intensity of on-ground management that is needed to manage key values and meet custodial obligations. The rating provides QPWS&P with a means for gauging resource requirements and staff training needs.

Desired level of service and strategic management direction

Desired level of service	
	Field management capability will be managed to a <i>high</i> LoS, through strategic management of resources, to enhance park management and protect values.

Strategic management direction	Priority
<p>Level of service:</p> <p>Maintain the current level of skills, frequency of park visits, and support from the region’s specialist staff concerning managing key values</p>	4

*KEY: Priority ratings: M – maintain current priorities; Scale 1 (extremely urgent and extremely necessary) to 5 (optional and not urgent).

5.9 Operational planning and management support

Management direction statement

Description	Current level of service
Operational planning and management support for Mount Coolum National Park	

Operational planning and management support covers all aspects of management direction including information, assessments, systems, tools and monitoring. As with field management capability, the area’s values, potential threats, intensity of visitor use and community expectations are considered when determining the appropriate levels of service.

Desired level of service and strategic management direction

Desired level of service	
	Operational planning and management support will be managed to a <i>high</i> LoS, through strategic management of resources, to enhance park management and protect values.
Strategic management direction	Priority
Level of service:	
Identify, and continue to improve, operational resourcing capacity and planning support	4

*KEY: Priority ratings: M – maintain current priorities; Scale 1 (extremely urgent and extremely necessary) to 5 (optional and not urgent).

6. References

Environmental Protection Agency, 2005, *Mount Coolum National Park Vegetation Classification and Map*, Sunshine Coast.

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Queensland Parks and Wildlife Service, 2007, *A review of a long-term monitoring program on Ground Parrot (*Pezoporus wallicus wallicus*) population within National Parks on the Sunshine Coast, south east Queensland*, Moggill.

Environmental Protection Agency, 2007, *National recovery plan for the Mount Emu she-oak *Allocasuarina emuina**. Report to Australian Government Department of the Environment and Water Resources, Brisbane.

State of Queensland, 1992, *Nature Conservation Act 1992*, Office of the Queensland Parliamentary Counsel, Brisbane.

Willmott, W.F., 2004, *Rocks and Landscapes of the National Parks of Southern Queensland*, Geological Society of Australia, Queensland.

Appendix 1. Summary of strategic management directions

A summary of strategic management directions for Kabi Kabi First Nations People (Table 1), key values (Table 2) and management direction (Table 3).

Table 1. Summary of strategic management direction for Kabi Kabi First Nation People

Threatening processes	Strategic management directions	Priority (1-5) *
Loss of connection to country	Support incorporating Kabi Kabi traditional practices into park management	1
Fire	Improve knowledge of traditional practices such as burning	1
Visitor	Strengthen the engagement with Kabi Kabi and the Australian Climbing Association (QLD) Inc. about the future management of rock climbing	1
Visitor	Minimise visitor impacts, caused by trampling and people walking off designated tracks and lookouts, on Kabi Kabi cultural heritage on Mount Coolum	1
Community education	The cultural significance of Mount Coolum National Park is communicated to visitors through signage, message sticks and on-park open days	
Loss of connection to country	Increase support and provide opportunities for Kabi Kabi to get back on Country on Mount Coolum National Park	1

See Appendix 2. Glossary for key value priority rating definitions.

Table 1. Summary of strategic management direction for key values

Key value	Current	Desired	Threatening processes	Strategic management directions	Priority (1-5) *
Coolum Creek and Lower Maroochy River nationally important wetland (Marcoola Section)			Fire	Conserve coastal heath communities by providing structural and age class variation across the landscape through the targeted application of fire	1
			Fire	Facilitate optimum ground parrot habitat and refuge by providing structural and age class variation across the habitat	1
			Pest plants	Reduce impacts of invasive grasses within heath communities	2
			Development	Monitor acid frog habitat to identify potential impacts from adjacent development	1
			Pest animals	Reduce impacts of foxes and cats on ground parrots by implementing coordinated pest programs	2
			Visitor impacts	Minimise visitor impacts on wetlands by restricting access	4
Montane heath		Short term 	Visitor impacts	Minimise visitor impacts to the summit track area by better defining track alignments and viewing opportunities	1
			Fire	Conserve montane heath communities by providing structural and age class variation across the landscape through the targeted application of fire	2
		Pest	Reduce impacts of invasive grasses on montane heath communities	2	
		Long term 	Impacts on visitor experience	Enhance the experience of recreational walkers on the summit track, by reducing incompatible uses	3
Iconic summit track			Impacts on visitor experience	Enhance the experience of recreational walkers on the summit track, through improved education of users using interpretation to modify behaviour (for example, by staying on the designated tracks and not creating informal walking tracks)	2

See Appendix 2. Glossary for key value priority rating definitions.

Table 2. Summary of strategic management direction for management direction

Management theme	Current LoS	Desired LoS	Strategic management directions	Priority (1-5) *
Fire			Protect to the highest extent possible the communications infrastructure on Mount Coolum from the impacts of severe wildfire.	1
			Mitigate the potential severity and impacts of wildfire on the neighbouring residential properties	1
			Support the re-establishment of traditional practices by incorporating them into park management	1
			Improve knowledge of traditional practices, such as burning	1
			Increase support and provide opportunities for Kabi Kabi to get back on Country on Mount Coolum National Park	1
			Maintain knowledge of fire values requirements of wet heathland, particularly for ground parrot habitat and Mount Emu she-oaks.	2
			Improve the community's understanding of fire management in a coastal heath landscape and how information is communicated during planned burns and high fire danger periods	2
			Improve how QPWS&P engages with agencies responsible for land management surrounding the park, by conducting regular meetings, updates and communications to ensure planned burns occur within required timeframes	3
Maintain current resource commitment to delivering a planned burn program	1			
Pests			Improve knowledge of traditional practices such as pest control	1
			Increase support and provide opportunities for Kabi Kabi to get back on Country on Mount Coolum National Park	1
			Improve knowledge of current and emerging pests (location, extent, impacts and issues)	2
			Maintain the coordination of cross-landscape pest management programs that target protection of key values	2
			Maintain engagement with Kabi-Kabi First Nation about pest management programs	1
			Continue to engage with Queensland Electricity Supply Industry (QESI) representatives about pest management along power line corridors	3
			Maintain management capacity and the level of priority for pest management activities	2
Natural values			Improve knowledge through continued survey work of the range and composition of the park's plant communities	4
			Improve consultation by continuing to liaise with research institutions and interest groups to encourage and support surveying and monitoring programs, particularly research into the ecology and management requirements of threatened species	4
			Maintain current approach to natural values management by continuing to meet recovery plan objectives for the Wallum sedgefrog <i>Litoria longburnensis</i> and <i>Allocaeusuarina emuina</i>	3
			Monitor the condition of natural key values through health check monitoring	1

Management theme	Current LoS	Desired LoS	Strategic management directions	Priority (1-5) *
Historic cultural heritage	Acceptable 	Acceptable 	Maintain knowledge of historic sites, values and stories	5
Visitor	Medium 	High 	Improve knowledge of visitor use by monitoring visitor numbers and their satisfaction with the visitor experience	2
			Improve the level of engagement with park users, by improving communication with different user groups	3
			Improve visitor management by developing a proactive approach to track maintenance, including monitoring of new informal tracks	1
			Investigate opportunities to improve visitor experience at Mount Coolum National Park	1
			Monitor the condition of visitor key values through health check monitoring	1
Community, partnerships and other interests	High 	Very High 	Improve current approach to consultation by formalising engagement with other land managers to improve the communication of key park management requirements particularly fire and drainage management	2
			Maintain current approach to consultation by continuing to involve local residents and conservation groups in park management, and to engage with neighbours particularly with regard to fire and garden waste dumping	2
			Strengthen the engagement with Kabi Kabi and the Australian Climbing Association (QLD) Inc about the future management of rock climbing	1
			Increase support and provide opportunities for Kabi Kabi to get back on Country on Mount Coolum National Park	1
Field management capability	High 	High 	Maintain the current level of skills, frequency of park visits, and support from region's specialist staff concerning managing key values	4
Operational planning and management support	High 	High 	Identify, and continue to improve, operational resourcing capacity and planning support	4

*KEY: Priority ratings: M – maintain current priorities; Scale 1 (extremely urgent and extremely necessary) to 5 (optional and not urgent).

Appendix 2. Glossary

Interpreting key values-based management framework concepts

Adaptive management	The process of adjusting and improving how we manage parks, forests and reserves after assessing the outcomes of previous strategies and on-ground actions.
Condition and trend	The condition of a key value is assessed as either good, good with some concern, significant concern or critical. Trend describes what is happening to the condition: is it improving, stable, or deteriorating. A key value's current condition is determined during the planning process. A desired condition is a realistic goal for the future condition of the key value. The ongoing condition of key values is assessed with regular health checks, monitoring and scientific assessment.
Custodial obligations	The requirements in legislation and government policies that we, as the land management agency, have to ensure QPWS&P's parks, forests and reserves are lawfully managed and good neighbours. Management provides for the protection of life and property, biosecurity and positive relationships with adjacent communities and landholders, as well as enhancing and protecting our values.
Desired outcome	A statement in the key value and management direction statements about moving from the current status (condition or LoS) to a desired status. The goal for management.
Health check	Basic form of monitoring that uses indicators and visual assessments to regularly evaluate the condition of key values. Regular health checks ensure QPWS&P can respond quickly to adverse change and redirect management priorities.
Key value	A natural, cultural, and/or social value that is of most significance to that area. It is what makes the area special and if lost, would diminish what makes the area distinct from others.
Key value statement	A statement in the management plan/statement that is developed for each key value. It describes the key value, current condition, desired condition, current threats and threat ratings, strategic management direction and priorities for further thematic strategy planning and on-ground management action.
Level of service (LoS)	A planning tool used to identify the acceptable management standard, or level of resourcing that is required to maintain an area based on its values, threats and the complexity of management. There are five LoS ratings ranging from 'acceptable' to 'exceptional' noting that an acceptable rating is the minimum standard required to deliver good management and meet our custodial obligations under law as a land manager. A 'current' LoS rating is the level at the time of planning, the 'desired' LoS is where we want to be.
Management direction statement	A statement in the management plan/statement, developed for each management theme that describes the current LoS, desired LoS, custodial obligations, strategic management direction and priorities for further thematic strategy planning and on-ground management action.
Management theme	QPWS&P has identified a number of management theme that are common to most of the parks, forests and reserves in our estate: fire management; pest management; natural values management; historic cultural heritage management; visitor management; community, partnerships and other interest; field management capability; operational planning and management support.
Management instrument	A management plan or management statement.
Priority rating (key value SMDs)	<p>A rating given to a strategic management direction according to the need for action to prevent further decline, stabilise current condition, or restore and enhance values, with consideration given to legislative obligations, cost, social, economic and political factors.</p> <p>Critical (1) Loss or very significant decline in the condition of key value/s is highly likely if action not taken OR significant improvement in the condition of key value/s is highly likely if action is taken.</p> <p>Very high (2) - Significant decline in the condition of key value/s is likely if action is not taken OR significant improvement in the condition of key value/s is likely if action is taken.</p> <p>High (3) -Decline in the condition of key value/s is likely if action is not taken OR improvement in the condition of key value/s is likely if action is taken.</p> <p>Moderate (4) -Some decline in the condition of key value/s is possible if action is not taken OR some improvement in the condition of key value/s is possible if action is taken.</p> <p>Desirable (5) - While decline in the condition of key value/s is not likely in the short term, the action, if taken would help build long-term resilience of key value/s.</p>
Priority rating (LoS SMDs)	A rating given to a LoS or custodial obligation strategic management direction. A scale from 1 (extremely urgent) – 5 (not urgent or optional) is assigned, with consideration given to legislative obligations, cost, social, economic and political factors.
Management direction	How we manage the each management theme to protect and enhance our key values and meet our custodial management obligations.
Strategic management direction	A broad strategy aimed at mitigating or removing a threat to a key value and maintaining or improving the condition of a park's value; or addressing the gap between the current LoS and desired LoS for a management theme.
Threat or threatening process and threat rating	Based on IUCN's classifications, QPWS&P has identified threatening processes that have the potential to affect Queensland's values (e.g. natural systems modifications, invasive species etc.). Current threats to key values are identified and given a threat rating based on a combination of the extent of the impact, the severity of the impact, and the urgency of action.