

Girraween National Park

Management Plan
2010



New England Tableland Bioregion

Prepared by: Planning Services Unit
Department of Environment and Resource Management

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Vision

Girraween's distinctive granite landscape is unique in Queensland. The park is renowned for its outstanding geological formations and spectacular landscapes. Girraween National Park will continue to be managed to protect its scenic values and to conserve its soils and landforms.

Girraween National Park will also be managed to conserve a biologically and aesthetically significant section of Queensland's New England Tableland Bioregion.

Plant communities and fauna species of conservation significance will be protected.

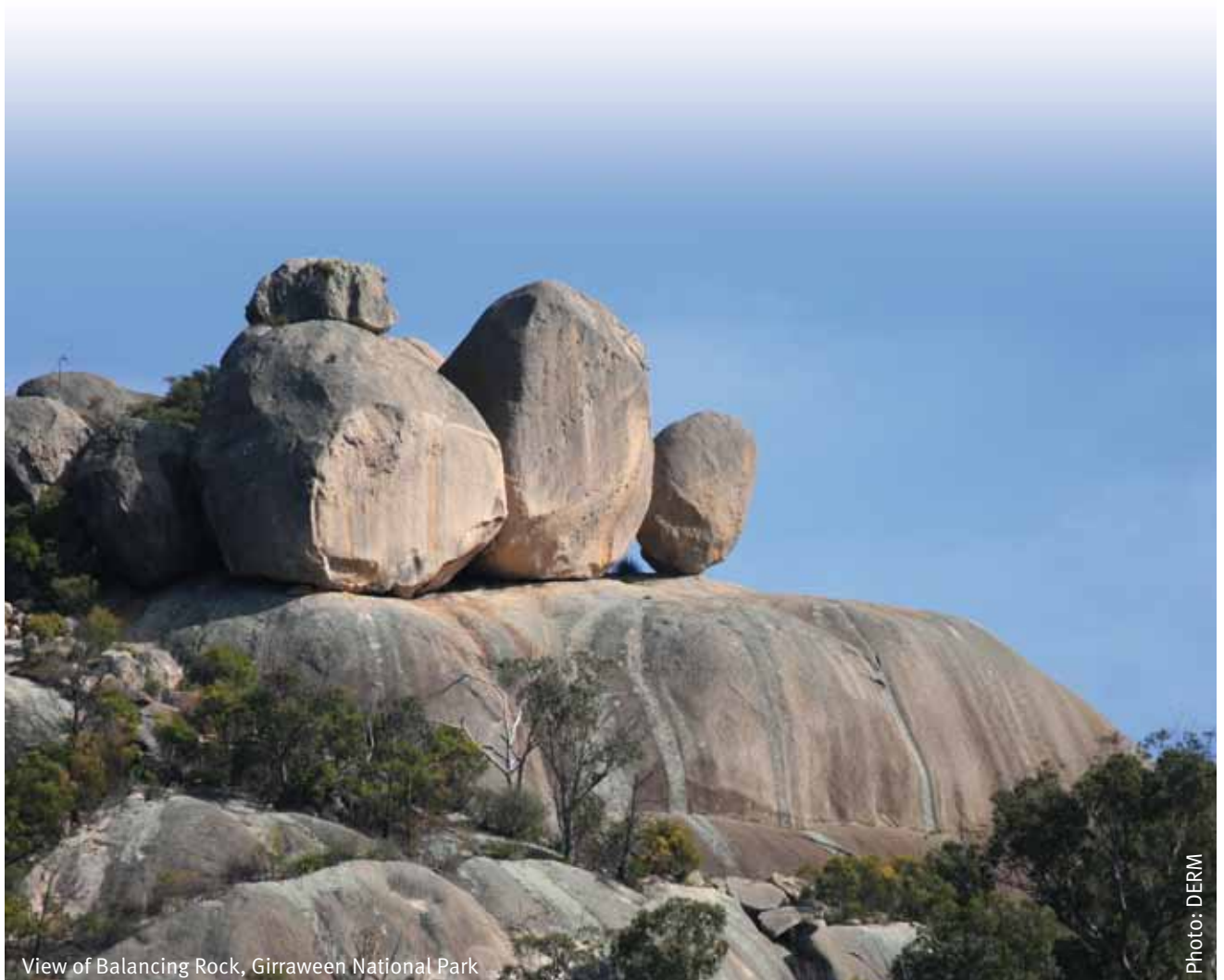
The park will continue to have a high regional profile in the Granite Belt's growing tourism market and complement rather than replicate the accommodation styles in areas near the park.

Visitors to Girraween National Park will be able to enjoy recreation opportunities including vehicle-based camping, day and overnight walks and bush camping.

Visitor services will continue to be provided in the current nodal style, with shelter sheds, barbeques and toilet facilities concentrated at day-use sites and two major campgrounds, both with barbeque, toilet and shower facilities.

The extensive network of walking tracks will be maintained to give visitors opportunities to enjoy the iconic granite formations for which the park is renowned. Off-track bushwalking, with few signs of management presence, will continue to be available for those who wish to be challenged by a more remote bushwalking experience.

Girraween National Park will continue to offer visitors an outstanding experience of natural settings and a sense of remoteness and wilderness.



View of Balancing Rock, Girraween National Park

Photo: DERM

1.0 Management intent

The primary management purpose for Girraween National Park will be to:

- conserve the natural ecosystems of the park including regional ecosystems, and plant and animal species of conservation significance
- convey to visitors and the broader community Girraween's natural and cultural values
- identify and protect Indigenous and shared-history cultural heritage places
- provide diverse safe, sustainable and nature-based recreation opportunities
- ensure visitor information about the park's natural and cultural values is available
- develop co-operative management relationships with neighbours, stakeholders and the local community
- encourage bona fide scientific research, surveys and monitoring.

2.0 Basis for management

Girraween National Park is managed according to the management principles for national parks defined in the *Nature Conservation Act 1992*.

The park will be managed in accordance with relevant Department of Environment and Resource Management (DERM) policies and the requirements of other legislation administered by DERM and other state and Commonwealth agencies will be met where necessary.

The park supports migratory species listed under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (that is, those species listed under the Bonn Convention, the China-Australia Migratory Bird Agreement, Japan-Australia Migratory Bird Agreement and the Republic of Korea-Australia Migratory Bird Agreement).

While Girraween National Park is not subject to a native title claim, Indigenous people have affinities with this park and involving Traditional Owner groups forms an important management component.

Endangered and of concern regional ecosystems are described under DERM's biodiversity status. Endangered, vulnerable and near threatened species are listed under the Nature Conservation (Wildlife) Regulation 2006. DERM has a responsibility under the *Land Protection (Pest and Stock Route Management) Act 2002* to control declared pest plants and animals in protected areas.

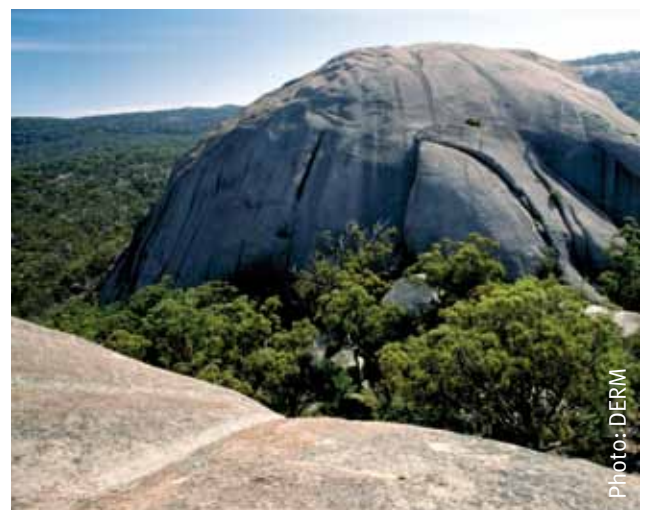
3.0 Location and regional context

Girraween National Park was first established in 1930 with the declaration of Bald Rock Creek National Park, followed by Castle Rock National Park, declared in 1932. The two park areas were collectively known as Wyberba National Park. In 1966 a further 52.4 ha were acquired to amalgamate the areas, renamed as Girraween National Park. Subsequent acquisitions enlarged the national park to its current size of 11 800 ha.

Approximately 260 km south-west of Brisbane and 26 km south of Stanthorpe in Southern Downs Regional Council, Girraween National Park is close to the small townships of Ballandean and Wallangarra (Appendix A Map 1). Major nearby towns are Stanthorpe in Queensland and Tenterfield in New South Wales. Gazetted dirt roads provide visitors with access through the national park to Stanthorpe in the north and Wallangarra to the south.

Girraween National Park borders New South Wales's Bald Rock National Park and is close to Boonoo Boonoo National Park, also in New South Wales. The three national parks jointly conserve approximately 23 883 ha of land, sharing similar landscape characteristics and natural resources. Surrounding land uses include orchards, sheep and cattle grazing, vineyards and tourist accommodation.

Sundown National Park (12 588 ha) and Sundown Resources Reserve (2565 ha) are to the south-west of Girraween National Park, while Passchendaele and Broadwater State forests are to the north.



The Pyramid, Girraween National Park

4.0 Protecting and presenting the park's values

4.1 Landscape

4.1.1 Geological features and landscape values

With huge granite boulders towering over open forests, Girraween National Park's striking landscape is unique in Queensland.

Girraween National Park is located in the New England Tableland's Granite Belt that covers 2500 km², extending from southern Queensland to Tamworth in New South Wales.



Mt Norman, looking west towards Bald Rock

The Granite Belt was created by a large intrusion of molten rock that penetrated upwards through older sedimentary and volcanic rocks (Leigh 1968).

Stanthorpe Granite, which underlies the Stanthorpe and Girraween areas, resulted from such activity in the Triassic period, about 240 million years ago.

Since the Triassic period, erosion has removed tremendous thicknesses of rock to reveal the granites of the district, which originally solidified at considerable depths in the crust.

Weathering and erosion continue to work along fractures, producing a landscape of large granite tors and expansive rock pavements. Such formations are typical of the Girraween landscape.

Several of these weathering features have local names and are popular with visitors. These features include the Pyramids, which rise 200 m above Bald Rock Creek, Granite Arch, Castle Rock, Turtle Rock and the Sphinx.

The granite landscape erodes to form soils that are coarse-grained and relatively infertile. These gritty, siliceous sands dominate much of the national park and are highly prone to erosion, especially where they are exposed through road and track construction.

Some areas of the national park were cleared before acquisition and are still regenerating.

From a broad landscape perspective, Girraween National Park forms a contiguous natural landscape extending through to Bald Rock National Park in New South Wales. To adequately provide protection for its natural and cultural values, it is important that Girraween National Park is not managed in isolation from the adjoining Bald Rock National Park and other surrounding forested lands.

4.1.2 Scenic amenity

The special quality of Girraween National Park's landscape is one of its most recognised features. Massive granite outcrops, balancing boulders, water cascades and wildflowers all form part of a spectacular landscape that is highly valued by visitors.

The scenic amenity of the escarpments and ridges in the national park is not marred by communication towers, easements or other infrastructure.

Visitor infrastructure is currently meeting demand but future increases in visitor numbers and developing any further infrastructure will require careful planning to maintain amenity values.

4.1.3 Freshwater systems

Girraween's river systems drain to the west and form part of the Murray-Darling catchment. Bald Rock Creek catchment drains a major section of the national park and is made up of a chain of high conservation value waterholes and swamps. Locally, swamps develop on perched water tables, on hardpans of siliceous or clay soils.

Quart Pot and McLaughlin creeks also drain large parts of the national park and feed into Storm King Dam, which provides the water supply for Stanthorpe. North-east of Wallangarra the park's creeks drain into Beehive Dam, which provides part of the water supply for Wallangarra and Jennings.

Most of Bald Rock Creek's catchment is contained in the park and so water quality is high. Water from the creek is used to supply park visitors and resident Queensland Parks and Wildlife Service (QPWS) staff as well as the Visitor Information Centre. This water is drawn from the creek near the day-use area.

The relatively shallow soils and broad expanses of granite drain water quickly to the catchment. Water levels in the creek vary and may drop to low levels between rainfall events.

Riverine environments in the national park have high conservation significance, providing habitat for many species of conservation significance. Most of the endangered regional ecosystems in the national park occur in drainage flats, swampy valleys or riparian areas.

Table 1 Management strategy for geological features and landscape values

Desired outcome 2020	Actions and guidelines
<p>Geological features and landscape values</p> <p>The continuity of protected natural environments is maintained in the national park.</p> <p>Landscapes with high erosion potential are managed to minimise erosion.</p> <p>Potential linkages from the park to other natural areas are identified and protected where possible.</p>	<p>A1. Drainage along tracks and roads will be managed to minimise erosion. This may require special remedial works in particularly sensitive areas.</p> <p>A2. Ensure park management actions do not accelerate or impact upon the natural processes of erosion associated with the granite landscape.</p> <p>A3. Investigate opportunities to add areas of conservation value to the park. Priority will be given to securing linking areas of native vegetation with existing protected area estate.</p> <p>A4. Continue to investigate developing nature refuge agreements with adjacent landholders who have areas of high conservation value.</p>
<p>Scenic amenity</p> <p>The national park’s scenic values are protected and actively maintained when planning infrastructure and redevelopments.</p> <p>The continuity of protected natural environments is maintained in the national park.</p> <p>Girraween National Park is managed within the context of the broader landscape.</p>	<p>A5. Implement the zoning plan (Appendix C and Map 4) to ensure minimal interference with scenic amenity, particularly when upgrading or extending tracks, facilities and signage.</p> <p>A6. Assess existing structures in relation to their visual impact on the granite landscape. Where structures are visually unsympathetic to the landscape remedial actions, such as removal, screening with vegetation or repainting, should be considered where resources permit.</p> <p>A7. Participate in local government development and planning schemes to maintain the landscape values of the park.</p>
<p>Freshwater systems</p> <p>Water supply for the national park’s recreational facilities are managed so that sufficient surface water is maintained to allow natural aquatic processes and for ecosystems to remain healthy.</p>	<p>A8. Water extraction will be reviewed regularly and reduced during dry periods, as necessary, to maintain the health of the creek’s aquatic environment.</p> <p>A9. Visitor use of water resources will be managed to minimise impacts on the riverine environments and water quality.</p> <p>A10. Investigate options for establishing a routine water quality monitoring program for creeks.</p> <p>A11. Prohibit swimming in parts of Bald Rock Creek and upstream of the Pyramids walking track during periods of zero water flow in the creek. Guidelines for visitor management are included in Section 4.5 – Tourism and visitor opportunities.</p>



The Junction, Girraween National Park

4.2 Native plants and animals

Girraween National Park, together with Bald Rock and Boonoo Boonoo national parks in New South Wales, conserves a significant section of the northern New England Tableland Biogeographic Region.

Girraween's massive granite outcrops, precariously balanced boulders, clear streams and tumbling cascades dissect 11 800 ha of eucalypt forest, sedgeland and heathlands. These communities support a significant number of near threatened, vulnerable and endangered flora and fauna.

4.2.1 Native plants

Girraween is an Indigenous word meaning 'place of flowers'. Although it is not of local origin, it is still an apt name for this rugged place with its spectacular spring wildflower displays.

The wildflowers start blooming in late July and by September or October the delicate white heath bells, bold yellow, purple and red pea flowers, grass trigger plants, billy-buttons, native bluebells, native sarsaparilla and daisies all combine to produce a magnificent display of colour within the granite-strewn landscape.

At an average elevation of 900 m above sea level, Girraween National Park is on the northern extremity of the New England Tableland. The climate and geology have combined to produce a granite habitat that is unique in Queensland.

Girraween National Park boasts an impressive diversity of flora with over 700 species of vascular plants (representing 100 families and 354 genera), and 57 species of non-vascular taxa (algae, fungi, lichens and bryophytes) in 14 families and 25 genera (Sparshott 2007).

Thirty-seven plant species are regarded as species of conservation significance (Appendix D).



Pink kunzea *Kunzea obovata*

Several plants in Girraween National Park are at the northern limit of their natural distribution, such as: *Eucalyptus radiata* subsp. *sejuncta*, broad-leaved stringybark *E. caliginosa*, New England peppermint *E. nova-anglica*, *E. prava*, northern swamp gum *Eucalyptus camphora* subsp. *camphora*, Williams's stringybark *E. williamsiana*, *Grevillea juniperina* subsp. *alloyohnsonii*, *Pultenaea dentata*, *P. paleacea* *Quintinia sieberi* and Dorrigo Pepper *Tasmannia stipitata*.

In addition to representing northern limits of their natural distribution, *Olearia glandulosa*, bellfruited mallee *Eucalyptus codonocarpa* and *E. camphora* subsp. *camphora* are also disjunct populations. Two species, *Phebalium whitei* and *Homoranthus papillatus*, are endemic to the park (Sparshott 2007).



Sedgeland is common in low-lying areas

There are also species known to occur in the park that have not been observed for a number of years including: *Cassinia copensis*, *Craspedia* sp. (*Girraween NP S.T.Blake 23643*), *Prostanthera saxicola*, *Melaleuca pallida*, *Grevillea juniperina* subsp. *Alloyohnsonii*, *Persoonia daphnoides*, *Zieria arborescens* subsp. *arborescens* and *Zieria arborescens* subsp. *glabrifolia* (Peter Young pers coms).

Girraween National Park conserves 10 regional ecosystems; five are recognised as endangered and another three are of concern under DERM's biodiversity status (Appendix D, Table 3 and Map 2). The endangered ecosystems primarily occur in swampy and riverine environments (Sparshott 2007).

A comprehensive report documenting the park's key vegetation communities was prepared in 2007.

This project recognised a total of 21 plant communities (Sparshott 2007).

The broad vegetation types are:

- tall open forests and woodlands, with either a shrubby or grassy understorey
- sedgelands, merging into wetter grasslands and heaths, common in low-lying parts in the east of the park

- heathlands and shrublands on exposed granite outcrops (a major feature of the central section of the park in particular).

Major threats to native plants include inappropriate fire management, pest plants and animals. Broad fire management recommendations have been developed for priority regional ecosystems.

Group recreational activities, such as rock climbing, conducted away from formed tracks may trample vegetation (Sparshott 2007).

Campfire sites provided in the national park's camping areas encourage localised collection of firewood. This practice is not sustainable as it could alter plant community structure.

Table 2 Management strategy for native plants

Desired outcome 2020	Actions and guidelines
<p>The distribution and abundance of native species and composition of vegetation communities are protected and maintained.</p> <p>Plant species and communities of conservation significance are protected and appropriately managed.</p> <p>Increase our knowledge and understanding of significant plant species, communities and regional ecosystems and use this as the basis for future management decisions.</p> <p>Further monitoring programs will be designed and conducted to add to the existing knowledge of the park's ecology.</p> <p>Degraded areas are revegetated.</p>	<p>A12. Maintain the diversity and health of native plant species.</p> <p>A13. Protect plant species of conservation significance (Appendix D) and those with limited geographic distribution.</p> <p>A14. Further research the distribution, reproductive ecology and population dynamics of significant plant species, and incorporate findings into future management strategies.</p> <p>A15. Subject to available resources, assess and monitor habitat condition and natural integrity through an established program to:</p> <ul style="list-style-type: none"> • assess changes in species assemblages, richness and abundance over time • confirm the condition of habitat • identify threats • monitor and assess the effectiveness and sustainability of management actions • monitor the distribution, abundance and habitat condition of species of conservation significance, including those species that have not been observed in recent surveys. <p>A16. Work with the Queensland Herbarium to update regional ecosystem mapping and identify unmapped ecosystems.</p> <p>A17. Maintain staff training in the identification of vegetation types, regional ecosystems, and species of conservation significance. Identification skills will facilitate mapping updates and adaptive management responses when changes in the extent of species or ecosystems are detected.</p> <p>A18. Perform on-ground assessments of vegetation types and plant species of conservation significance before carrying out any management strategies or planned development. Assess the potential impact of infrastructure on plant species of conservation significance.</p> <p>A19. Implement any recovery plans or conservation plans for plant species of conservation significance.</p> <p>A20. Repair degraded and previously cleared areas by allowing them to revegetate naturally or plant them with local native species where appropriate.</p>
<p>Impacts from pest animals and plants are minimised.</p> <p>Fire management regimes that promote and maintain biological diversity are implemented.</p> <p>Visitor damage to the national park's vegetation is minimised.</p>	<p>A21. Identify habitats that are vulnerable to impact from fire, pest plants and animals. General guidelines for the management of fire, pest animals and plants are included in Section 5 – Other key issues and responses.</p> <p>A22. Identify habitats that are vulnerable to human impact.</p> <p>A23. Manage visits to fragile areas, such as granite outcrops, where sensitive heath communities or species occur. Guidelines for group recreational activities are included in Section 4.5 – Tourism and visitor opportunities.</p>
<p>No firewood is collected inside the national park.</p>	<p>A24. Wood fires will be phased out and replaced with gas or electric barbeques. Guidelines for campfire management are included in Section 4.5 – Tourism and visitor opportunities section.</p>

4.2.2 Native animals

Girraween National Park is an area of high species diversity. Its eucalypt forests, sedgeland and heathlands are important for conserving intact representative areas of habitat for fauna species. Girraween's substantial size enables many fauna species to breed successfully and maintain viable populations.

Recent fauna surveys have identified 317 fauna species, 17 of which are species of conservation significance (Appendix D). More than 170 bird species have been recorded at Girraween National Park, representing 57 of the 91 families of birds in Australia.

Bird species include the vulnerable glossy black-cockatoo *Calyptorhynchus lathami*, southern emu-wren *Stipiturus malachurus*, powerful owl *Ninox strenua* and the endangered regent honeyeater *Anthochaera phrygia*.

The near threatened grey goshawk *Accipiter novaehollandiae*, square-tailed kite *Lophoictinia isura*, red-browed treecreeper *Climacteris erythrops* and turquoise parrot *Neophema pulchella* all depend on the park for essential habitat.

Other species, such as the superb lyrebird *Menura novaehollandiae* and common wombat *Vombatus ursinus*, have highly restricted distributions in Queensland.

These and many other species have their northern-most limit of distribution range in the Girraween area, although they are more widely spread in New South Wales and further south.

Girraween National Park has the only known recording of the common silver xenica butterfly *Oreixenica lathoniella herceus* in Queensland.

Species such as the border thick-tailed gecko *Nephrurus sphyurus* are found only in the New England Tableland Biogeographical Region. The vulnerable spotted-tailed quoll (southern subspecies) *Dasyurus maculatus maculatus* has also been recorded in the park.



New England treefrog *Litoria subglandulosa*



Common wombat *Vombatus ursinus*

Riverine environments are particularly important and provide habitat for species of conservation significance including crustaceans, fish, frogs, freshwater jellyfish and the rare endemic Bell's turtle *Wollumbinia belli*. Boulder aggregations also provide unique cave-like environments that support fragile ecosystems of rare and unusual species.

The vulnerable tusked frog *Adelotus brevis*, cascade treefrog *Litoria pearsoniana*, and New England treefrog *Litoria subglandulosa* have been recorded at Girraween National Park.

While fauna surveys have been carried out on the national park, the knowledge of the distribution and abundance of many native species remains limited, especially in relation to species of conservation significance. The population trends and current status of species of high conservation significance are also poorly known. The extent and severity of threatening processes faced by many of these species are poorly understood, and it is possible that populations will decline in the future if active research and protection measures are not undertaken.

Sensitive cave and riverine environments are particularly susceptible to visitor impacts and require special management initiatives to ensure preservation. Native fauna may also be threatened by inappropriate fire regimes, pest plants and animals and visitor impacts.

Table 3 Management strategy for native animals

Desired outcome 2020	Actions and guidelines
The park continues to conserve the current assemblage of native species. The existing knowledge of plant and animal ecology is enhanced and used as the basis for future management decisions.	A25. Baseline fauna surveys will be carried out to continue documenting the range of species and their distributions in the national park. A26. Monitor the distribution, abundance and habitat condition of animal species of conservation significance. A27. Encourage tertiary institutions to research the ecology and management requirements of native animal species of conservation significance. A28. Maintain staff training in recognising species of conservation significance and the monitoring of their distribution and condition.
Species of conservation significance remain at viable population levels in the national park. Species with high conservation significance are managed to ensure their survival.	A29. Species of particular conservation significance will be regularly monitored. Base-line data on population size and health will be compiled to inform management strategies. A30. Research into species of conservation significance will be undertaken and the results will be used to inform management options for these species.
Native fauna of sensitive environments are protected.	A31. Actions from species recovery plans and regional biodiversity action plans will be implemented whenever possible. A32. Ensure that park management and public use have a minimal impact on animal species of conservation significance. Sensitive sites, such as caves, will be monitored and visitor access may be restricted if impacts are considered to be significant.
Fire, pest plant and visitor management regimes are conducive to protecting the national park's fauna.	A33. Identify the requirements of species of conservation significance that may be adversely affected by inappropriate fire regimes or uncontrolled wildfires. General guidelines for the management of fire, pest plants and animals are included in Section 5 – Other key issues and responses.

4.3 Indigenous culture

The national park's natural landscapes have broad cultural significance for Traditional Owner groups who have lived in this area for many thousands of years.

Girraween National Park lies in an area traditionally occupied by the Kambuwal people (alternative spelling Gambubal and Cambooble). Available accounts indicate that the area was used as a meeting place for a number of local groups including the Jukambal, Kwiambal and Ngarabal (Harmon-Price 1995) (Tindale 1974).

Bora rings existed in the Ballandean, Girraween and Maryland areas until 1843 but have subsequently been destroyed by farming activities.

The national park's landscape is of intrinsic cultural value to Traditional Owners. Stone implements, including axe heads, grinding stones, scar trees and other artefacts have been found in the area.

The extent of occupation and the degree to which the area is culturally significant to Traditional Owners remains largely unknown.

Opportunities exist for Traditional Owners to become more closely involved in managing the national park's cultural values.

The Granite Belt was on the pathway from northern New South Wales to the Bunya Mountains where Traditional Owners from New England, south-east coastal Queensland and the Wide Bay Burnett, Dawson and Darling Downs districts gathered for the triennial bunya nut festival.



The Pyramid at sunset

Photo: DERM

Table 4 Management strategy for Indigenous culture

Desired outcome 2020	Actions and guidelines
<p>Indigenous cultural resources and specific sites of significance are identified and protected with help and advice from Traditional Owners.</p> <p>Assessments of sites of cultural significance, inform strategies for their monitoring and conservation.</p>	<p>A34. Conduct a cultural heritage survey of the park, in conjunction with Traditional Owners.</p> <p>A35. Encourage Traditional Owners to participate in managing the national park.</p> <p>A36. Staff will continue to liaise with Traditional Owners and encourage them to participate in managing cultural values.</p> <p>A37. Maintain a register of cultural heritage sites.</p> <p>A38. Assess sites to inform strategies for their monitoring and conservation.</p> <p>A39. Maintain staff training in cultural awareness, place identification and management practices.</p> <p>A40. Encourage Traditional Owners to be involved in interpreting cultural values in the park, if identified.</p> <p>A41. Culturally sensitive information about Indigenous heritage areas and objects is to be protected from unnecessary disclosure.</p>

4.4 Shared-history culture

The area has shared-history cultural significance dating back to exploration by Allan Cunningham in 1827. This significance extends through the subsequent development of rural and mining enterprises, the survey of the Queensland – New South Wales border through this area in 1868 and the establishment of a local service centre at Stanthorpe in about 1872.

The area was first settled by non-Indigenous people about 1843 when the first pasture license was granted in the Tenterfield area, grazing and timber harvesting being the predominant land uses. The Queensland – New South Wales border was first surveyed in 1868 following the separation of the states in 1859.

The first leases were taken up in the Ballandean area in 1872 and in the Girraween area as late as 1898. These leases were initially used for sheep and cattle grazing, with many areas being developed as orchards and market gardens by the 1920s. Also during the 1920s, a timber mill sourced quantities of New England blackbutt *Eucalyptus andrewsii* from Girraween.

Very little evidence of the past land uses now remains, although Francis Robert’s survey cairn still stands on the surveyed Queensland – New South Wales border and there are some discernable marks or shields on trees that mark the original surveyed line. There is an old possum trapper’s hut and a grave in Girraween National Park. Areas in the park that were originally cleared for grazing and cropping are now slowly regenerating.

Dr Spencer Roberts, a medical practitioner in Stanthorpe, was a self-professed guardian of local populations of the superb lyrebird and the common wombat. Convinced that protecting the habitat of these two animals was vital for their long-term survival in Queensland, he made a number of submissions to the government for the declaration of a national park.

Bald Rock Creek National Park was declared in 1930 with Castle Rock National Park declared in 1932. Totalling 1600 ha, they were known collectively as Wyberba National Park.

In 1966, Mr Napier Gunn offered the government his block of 52.4 ha and the two national parks were amalgamated to create Girraween National Park. Tom Ryan and Bill and Hock Goebel were employed as field staff and development of infrastructure began.

From 1977 to 1979 further acquisitions enlarged the park to 11 300 ha. The last block acquired in 1980 enlarged Girraween National Park to its present 11 800 ha.

Heritage sites are presently allowed to age without active restoration programs. However, opportunities exist to manage some sites and interpret them for national park visitors.



Climbing the Pyramid

Photo: DERM

Table 5 Management strategy for shared-history culture

Desired outcome 2020	Actions and guidelines
<p>Sites and materials of cultural significance are managed and, where appropriate, interpreted for visitors.</p> <p>Assessments of sites of cultural significance, inform strategies for their monitoring and conservation.</p>	<p>A42. Historical places and materials will be recorded, mapped and assessed for their cultural significance.</p> <p>A43. Maintain a register of cultural heritage sites and places for the park.</p> <p>A44. Conservation and presentation plans for these sites will be developed and implemented where appropriate.</p> <p>A45. Maintain staff training in cultural awareness, place identification and management practices.</p>

4.5 Tourism and visitor opportunities

The national park's granite boulder and eucalypt forest landscape is unique in Queensland. Girraween offers visitors nature-based recreational opportunities including day walks via the walking track circuits, bushwalking, vehicle-based camping (with toilet and shower facilities) and remote camping.

Girraween National Park visitation peaks in the spring and autumn months and interpretative activities are conducted in the national park at this time. The spectacular spring time display of wildflowers is the most popular time to visit the park.

Interpretive displays are located in the information centre and Gunn's cottage. Gunn's cottage is also used for slide, video and film presentations and ranger talks.

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

Visitation is concentrated and managed in the main Wyberba Valley area, where hardened camping and day-use areas are provided. Castle Rock and Bald Rock Creek camping areas are in a pleasant open forest setting and cater for tent camping as well as caravans, trailers and motor homes.

Campgrounds are equipped with toilets, showers and barbeques while day-use areas have shelter sheds and barbeques (Appendix A Map 3). The Castle Rock camping area amenities block has wheelchair access.

Visitor numbers are projected to increase in the future and managing impacts in the valley will be an ongoing concern.

Bald Rock Creek is close to major visitor nodes and the riverine environments in this area are susceptible to visitor impacts, especially when water levels are low.

Table 6 Management strategy for tourism and visitor opportunities

Desired outcome 2020	Actions and guidelines
<p>Visitors have the opportunity to enjoy the national park, be informed about the park's natural and cultural values and use the park in a sustainable manner.</p> <p>A range of visitor experiences are provided to cater for differing interests and expectations.</p>	<p>A46. A visitor management strategy will be prepared for the national park and will be reviewed regularly. The strategy will provide specific guidelines for park activities and, in conjunction with the zoning scheme (Appendix C and Map 4), be designed to manage for sustainable use of the national park.</p> <p>A47. Future infrastructure development will be carried out in accordance with the national park's zoning scheme.</p> <p>A48. Monitor recreational impacts at culturally or ecologically significant sites including rates of soil erosion, compaction and vegetation destruction. Implement appropriate management response strategies where required.</p>
<p>The Bald Rock Creek environment is managed to minimise visitor impacts and to conserve the area's associated flora and fauna.</p>	<p>A49. Swimming in parts of Bald Rock Creek and upstream of the Pyramids walking track will be prohibited during periods of zero water flow in the creek.</p>



Photo: DERM

Granite Arch

4.5.1 Bushwalking and bush camping

There are 17 km of walking tracks within Girraween National Park (Grades 2 and 3 Australian Standard AS 2156.1). These allow visitors to access many of the park’s outstanding granite features and traverse a range of vegetation types. The walking tracks range from a 1.4 km return walk to the Granite Arch to a 10.4 km return walk to Mount Norman.

The sandy, friable soils of the national park are easily damaged when walking tracks are short-cut or when off-track bushwalking becomes concentrated in popularly visited areas.

Off-track bushwalking and bush camping (away from the road and track network) are allowed, subject to guidelines designed to ensure that the activity is both sustainable and appropriate for the environmental setting. There is currently a low level of off-track bushwalking in Girraween National Park.

4.5.2 Mountain bike riding

Mountain bike riding is a popular activity, but is unsuited to narrow walking tracks with limited visibility. Under such conditions the activity creates safety issues and the potential for conflict with walkers’ expectations. It can also worsen erosion in some areas.

Table 7 Management strategy for bushwalking and bush camping

Desired outcome 2020	Actions and guidelines
<p>Safe bushwalking opportunities are available and walkers can easily find their way along formed walking tracks.</p> <p>The walking track network provides visitors with controlled and relatively easy access to the major features and environments of the park, minimising off-track walking.</p> <p>Recreational facilities are safe and complement the park’s natural setting without compromising its natural or cultural values.</p> <p>Bush camping is provided in a manner that minimises environmental degradation and maintains a suitably remote and natural setting for campers.</p>	<p>A50. Tracks will be maintained to their current standards and extent, focusing activities away from particularly sensitive and easily damaged habitats of high conservation value.</p> <p>A51. Short-cutting tracks will be managed through signage or physical barriers at sites where damage is evident or highly likely to occur.</p> <p>A52. Design, locate, construct, operate, maintain and inspect all recreational facilities in accordance with the QPWS Facilities Manual and Girraween National Park zoning scheme (Appendix C and Map 4).</p> <p>A53. Existing guidelines for bush camping will be revised and specific sites and capacities will be set for key areas. Group size will be reviewed and limits set to control adverse environmental impacts.</p> <p>A54. Investigate booking of bush campsites at Girraween National Park via online camp booking website and/or call centre.</p> <p>A55. Bush camping will be allowed in accordance with the plan’s zoning scheme (Appendix C and Map 4).</p> <p>A56. Monitor impacts at bush campsites to determine rates of soil erosion or compaction and vegetation destruction.</p> <p>A57. Bush campsites may be periodically closed at the discretion of park management to allow vegetation to recover.</p> <p>A58. Open fires are not permitted in bush camping sites.</p>

Table 8 Management strategy for mountain bike riding and rock climbing

Desired outcome 2020	Actions and guidelines
<p>Mountain bike riding</p> <p>Walking tracks are not used by cyclists.</p> <p>Walking tracks are managed to provide walkers with a safe experience appropriate to the natural settings of the national park.</p> <p>Provide the opportunity for recreational mountain biking in a safe and sustainable manner.</p>	<p>A59. Cycling will not be permitted on walking tracks.</p> <p>A60. Investigate developing a recreational mountain biking trail, in line with the operational policy Cycling (mountain bike riding) in QPWS managed areas, for Paling Yard Road (also known as Mt Norman Road) and Hayden’s fire trail.</p> <p>A61. Monitor mountain bike trail use concerning unacceptable environmental, social or amenity impacts.</p>
<p>Rock climbing</p> <p>Rock climbing is managed co-operatively between QPWS and user groups to ensure the activity is carried out in an environmentally sustainable manner.</p>	<p>A62. A rock climbing and abseiling strategy will be developed and implemented in consultation with rock climbers to mitigate environmentally damaging processes.</p> <p>A63. QPWS will not install, inspect or maintain bolts or other installed rock climbing equipment on the national park. Permanent, non-natural anchors in rock faces are not permitted.</p> <p>A64. Rock climbing is to be prohibited on the first Pyramid and the Sphinx, due to significant safety issues with location of walking tracks below the climb site on the Sphinx and above the climb site at the first Pyramid.</p>

4.5.3 Rock climbing

Girraween National Park’s landscape of granite boulders and outcrops has made it a popular destination for rock climbing.

Rock climbers have inserted bolts in a number of rock faces in the national park.

However, bolting of rock faces is unlawful and potentially unsafe as the ongoing quality and security of bolts cannot be guaranteed. Climbers may also damage vegetation by trampling near frequently used rock faces.

4.5.4 Interpretation

The unique natural features of the national park warrant new educational and interpretive materials designed to inform visitors and enhance their experiences and appreciation of the national park.

Interpretive information also guides visitors about environmentally and socially appropriate behaviour required while visiting the park.



Track maintenance

Table 9 Management strategy for interpretation

Desired outcome 2020	Actions and guidelines
<p>Interpretive materials will educate and inspire park visitors to care for the national park's natural environment and cultural heritage.</p> <p>These materials will also promote appropriate and sustainable use by visitors.</p>	<p>A65. Interpretive activities will be developed and delivered in accordance with the national park's statement of interpretive intent.</p> <p>A66. Provide on-site interpretation to emphasise the importance of minimal impact bushwalking practices to protect native plant communities.</p>

4.5.5 Commercial operators

Commercial operators use Girraween National Park for guided tours and outdoor educational programs.

Some adjacent commercial interests make use of the national park's walking tracks and amenities.

4.5.6 Visitor safety

Increasing visitor numbers lead to an increase in safety issues. Visitors may come to the park unprepared for its terrain and weather. This is of particular concern in remote areas where inexperienced visitors can become disorientated and lost. Weather can change quickly and storms can arrive quite suddenly. This can be of concern particularly on the granite tors and in winter when it can become extremely cold.



Castle Rock

Table 10 Management strategy for commercial operators and visitor safety

Desired outcome 2020	Actions and guidelines
<p>Commercial operators</p> <p>Commercial operations continue to benefit from using the national park and all activities are managed in an environmentally sustainable manner.</p>	<p>A67. Commercial operators will be subject to standard QPWS policies and procedures for permitting and use of the national park.</p> <p>A68. Encourage commercial operators to maintain and use correct and up-to-date information about the natural and cultural values of the park.</p> <p>A69. Encourage tour operators to adopt minimum impact behaviours and attain ecotourism accreditation.</p> <p>A70. Determine commercial activity conditions on a case-by-case basis, taking into consideration the need to minimise impacts on the natural and cultural resources and the needs and safety of all park users.</p> <p>A71. Assess the compatibility of new and renewing permitted commercial activities with the management objectives of the park in relation to management zones, conservation and recreation.</p> <p>A72. Manage commercial activities to minimise unauthorised services and inappropriate behaviour.</p>
<p>Visitor safety</p> <p>Visitors are aware of significant threats to safety and risks are minimised within reasonable or acceptable limits.</p> <p>Adequate procedures and facilities are in place to manage safety risks and incidents.</p>	<p>A73. Implement the risk management strategy to reduce exposure of visitors to dangerous situations and increase awareness of the hazards in the park.</p> <p>A74. Provide safety advice to commercial operators and in the information centres, park brochures and on signs at park access points and other appropriate locations.</p> <p>A75. Provide visitor safety information through off-park mechanisms such as regular media articles, DERM website, schools, local community and stakeholder groups, etc.</p> <p>A76. Ensure that visitors are advised at the park entrance of the potential dangers and safe procedures. Provide advice about areas that are temporarily closed during unusual and dangerous situations, such as hazardous weather or wildfire conditions.</p>

4.6 Education and science

The national park's granite landscape and predominately natural setting provide opportunities to extend visitor appreciation of Girraween National Park's unique natural and heritage values by developing educational and interpretive materials and programs.

The flora of Girraween National Park has been extensively surveyed over many years. Allan Cunningham is thought to have made the first plant collections from what is now the Girraween National Park area in 1827. A major collection of the park's flora was made by the Queensland Herbarium botanist Stanley Blake after the initial gazettal in 1932. In the ensuing years knowledge of Girraween's flora was expanded with vegetation maps being produced and refined (Sparshott 2007).

The park's flora and fauna offer outstanding opportunities for research and study.

Scientific research into the natural processes occurring in these granite landscapes should also inform future management planning. Collaborative partnerships with educational and research organisations is one way to resource the research needs of the park and build mutually beneficial relationships with experts in various scientific fields.

Research to date has included ecological and taxonomic studies of diverse taxa, including the spotted-tail quoll, river blackfish, freshwater turtles and geckoes. Ecological work has also been conducted on vegetation communities and the effects of fire.

The University of Queensland conducts field work in the national park related to managing cultural and natural values. The university also uses the park to teach survey and monitoring techniques.



Spotted-tailed quoll (southern subspecies)
Dasyurus maculatus maculatus

Table 11 Management strategy for education and science

Desired outcome 2020	Actions and guidelines
<p>The environmental management of the national park is continuously improved through a better understanding of the park's ecological processes and the effect of management actions on the sustainability of these processes.</p> <p>The national park continues to provide opportunities for educational training.</p> <p>Scientific research does not impact on the park's natural and cultural values or visitor experiences.</p>	<p>A77. Encourage scientific research, particularly with respect to priority species, and incorporate the results of research into improved national park management strategies.</p> <p>A78. Encourage collaborative arrangements with educational and research organisations, emphasising arrangements contributing to improved national park management.</p> <p>A79. Investigate opportunities to establish stronger relationships with local educational institutions.</p> <p>A80. Manage the intensity and frequency of scientific research to ensure the park's natural, cultural and social values are not adversely impacted upon.</p> <p>A81. Encourage educational and scientific users to provide the precise location of research sites so staff can monitor their use and ensure that impacts on significant habitats are minimised.</p> <p>A82. Carefully assess scientific research permit applications and monitor to ensure compliance with permit conditions.</p> <p>A83. Ensure permit conditions include rehabilitating any areas subject to environmental disturbance, use of environmentally friendly markers and removing flagging tape and unofficial signage.</p>

4.7 Partnerships

Girraween National Park is a major focus in the local region for nature-based tourism and conservation. The national park contributes significantly to the local economy by attracting both day and camping visitors who, in turn, patronise local business. Some adjacent commercial accommodation and tourism enterprises also promote the national park as part of their marketing strategies. In this sense, the national park forms an integral part of regional tourism. Since the region is relatively close to the large, expanding population centres in south-east Queensland, the economic value of the national park is projected to increase in the future. The park also provides a field site for University of Queensland students studying environmental and park management issues.

The national park abuts private and public lands where other land uses occur. Effectively managing the park requires co-operation with neighbours to address issues of common concern, such as managing fires, pest plants and animals.

Girraween National Park is alongside Bald Rock National Park and is close to Boonoo Boonoo National Park in New South Wales. Proximity to both of these parks allows staff to share knowledge and co-operatively manage some park projects with the New South Wales Department of Environment, Climate Change and Water (DECCW) (which includes the New South Wales National Parks and Wildlife Service).

Managing pest animals and plants and fire is significantly enhanced with the co-operation and involvement of park neighbours and regional natural resource management groups. Co-operative management with neighbours relates to activities that require broad-scale actions extending beyond the park boundaries. These include stock, pest plant and animal and fire management initiatives. Opportunities exist for further co-operative research and management projects with DECCW.

The border fence between Girraween and Bald Rock national parks no longer serves any useful purpose and may be a hazard to wildlife and bushwalkers.



Balancing Rock

Table 12 Management strategy for partnerships

Desired outcome 2020	Actions and guidelines
<p>The national park continues to contribute to the region's environmental and economic wellbeing and, where possible, management activities are integrated with local community projects and activities.</p> <p>The park is managed with the co-operation of adjoining landholders. Adjoining landholders are aware of, and help achieve, the desired outcomes and strategies for managing Girraween National Park.</p> <p>The community and stakeholder groups are aware of, and participate in, park management activities.</p>	<p>A84. Park staff will liaise with neighbours to develop and implement co-operative stock, pest plant and animal, and fire programs.</p> <p>A85. QPWS park and regional staff will continue to liaise with DECCW staff to manage collaborative projects in accordance with the Memorandum of Understanding on Cross Border Management.</p> <p>A86. The future of the border fence will be discussed with DECCW to seek a staged removal.</p> <p>A87. Facilities and services provided off-park by commercial operators will generally not be duplicated on-park.</p> <p>A88. Provide neighbours with information about Girraween National Park's management.</p> <p>A89. Encourage co-operative arrangements with community-based nature conservation and land management programs in surrounding areas.</p> <p>A90. Encourage public involvement in monitoring native species populations through community-based conservation and natural history groups.</p> <p>A91. Engage the local community and encourage participation in conservation initiatives on and adjacent to the park.</p>

5.0 Other key issues and responses

5.1 Climate change

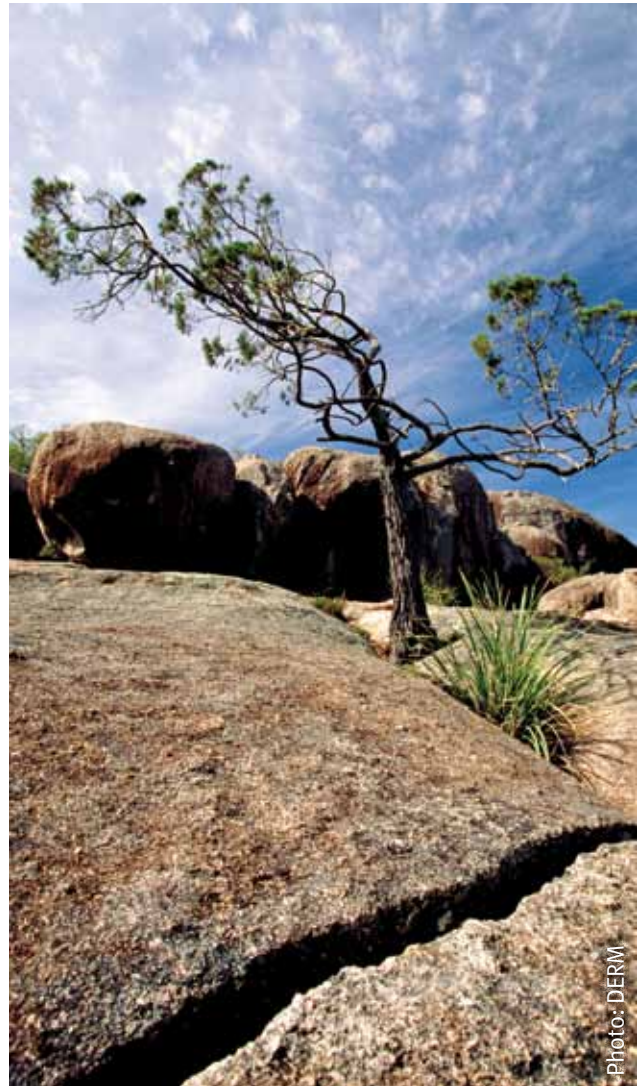
Climate change is largely outside the scope of this plan. However, reducing stresses on the park's natural systems will make them more resilient to climate change. The condition of the vegetation and habitat within and between reserves is an important factor in resilience to climate change (Mansergh and Cheal 2007).

Off-reserve conservation efforts provide an important complement to the protected area reserve system in responding effectively to climate change. A high level of natural connectivity improves the likelihood of survival of species by supporting large populations and a range of microhabitats (Mackey et al 2008).

Climate change is expected to promote the spread of pest plants and change the structure and distribution of native vegetation. Pest plant species currently restricted to lowlands can also be expected to move into higher altitude areas (McFadyen 2007).

Climate refugia allow species to persist in the face of climatic stress and, where possible, additional protection should be given to these areas (Dunlop and Brown 2008).

Fragmented and degraded habitat presents significant barriers to species that may need to move to new habitats and refugia (Taylor and Figgis 2007).



Girraween National Park

Photo: DERM

Table 13 Management strategy for climate change

Desired outcome 2020	Actions and guidelines
<p>Manage the impacts of threatening processes, such as invasive pest species, to maintain or restore habitat condition and increase resilience to climate change.</p> <p>Climate refugia are identified and protected.</p> <p>Fire is managed to avoid climate-related changes in fire regimes from adversely impacting on fire-sensitive species and communities.</p> <p>Ensure connectivity and permeability between habitats.</p>	<p>A92. Investigate research opportunities to:</p> <ul style="list-style-type: none"> • improve knowledge of plant and animal ecology in relation to climate change • monitor species and populations as indicators of change to habitat condition and natural integrity due to climate change. <p>A93. Monitor and manage invasive species, especially those associated with climate change.</p> <p>A94. Implement the fire management actions that target protecting significant species and communities that may be susceptible to altered fire regimes caused by climate change.</p> <p>A95. Identify and provide additional protection for climate refuges where possible.</p> <p>A96. Identify and protect critical linkages that allow for species to move in response to climate change. Guidelines in relation to landscape connectivity are also included in Section 4.1 – Landscape.</p>

5.2 Pest plants

There are approximately 68 species of non-native plant species that have been recorded in the park (Appendix D Table 4), which represent nine per cent of the park's vascular flora. Some of these are relatively benign but others, such as whiskey grass *Andropogon virginicus*, have the potential to become serious environmental weeds (Sparshott 2007).

Pest plants could impact significantly on the conservation values of Girraween National Park by displacing native species and destroying habitat. They also have the ability to degrade the aesthetic and recreational values of the park.

Many pest plants have been introduced or spread by visitors' vehicles and heavy machinery during road maintenance activities. Others are a legacy of past grazing and horticultural activities in the area. Many species are confined to disturbed sites, such as roadside drains, cultivated areas, picnic and camping areas. Introduced plants, such as blackberry

Rubus anglocandicans, could alter riverine and adjacent woodland environments.

Of the 260 exotic flora species that have been recorded for the granitic areas of the Stanthorpe Plateau, only a few are serious environmental weeds that have become established in Girraween National Park. Careful monitoring will be needed to ensure that further pest plants are not introduced from the surrounding lands (Sparshott 2007).



Wildflowers, Girraween National Park

Table 14 Management strategy for pest plants

Desired outcome 2020	Actions and guidelines
Pest plants posing a threat to the natural environment are eradicated, where possible, or their rate of spread limited or halted.	<p>A97. Manage pest plants in accordance with the operational policy Management of Pests on QPWS-managed Areas – including:</p> <ul style="list-style-type: none"> • using the QPWS Pest Management System and ParkInfo to plan, manage, record and monitor all pests and pest management • where practical and appropriate, participating co-operatively in pest management planning and implementation across the landscape with surrounding land managers, other government departments, local governments and utility providers to ensure landscape-level pest management is successful • following all pest management principles outlined in the QPWS Good Neighbour Policy • ensuring any pest management does not adversely affect the natural integrity of the park and use the best available scientific and technical knowledge. <p>A98. Ensure pest plant management is consistent with other local or regional pest animal control strategies and plans.</p> <p>A99. Ensure a suitable pest management strategy that applies to the park is developed under the QPWS Pest Management System. Actions will be implemented subject to available funding.</p> <p>A100. Continue to monitor and control pest plant species that disrupt native plant communities or that have the potential to spread rapidly.</p> <p>A101. Identify new invasive plant species and initiate control measures.</p> <p>A102. Maintain staff training in recognising and monitoring pest plant species.</p> <p>A103. Regularly check campgrounds and roads for pest plant species and take appropriate control measures as required.</p> <p>A104. Implement wash-down procedures in accordance with the operational policy – Pest Plant and Pathogen Spread Prevention.</p> <p>A105. The blackberry control program will be continued.</p>

5.3 Pest animals

Pigs *Sus scrofa* and foxes *Vulpes vulpes* are pest animals of particular concern to Girraween National Park. Pigs are most commonly found in riverine environments and adjacent river flats where they dig in search of plant roots and small animals, causing considerable damage. Numbers fluctuate with seasonal conditions.

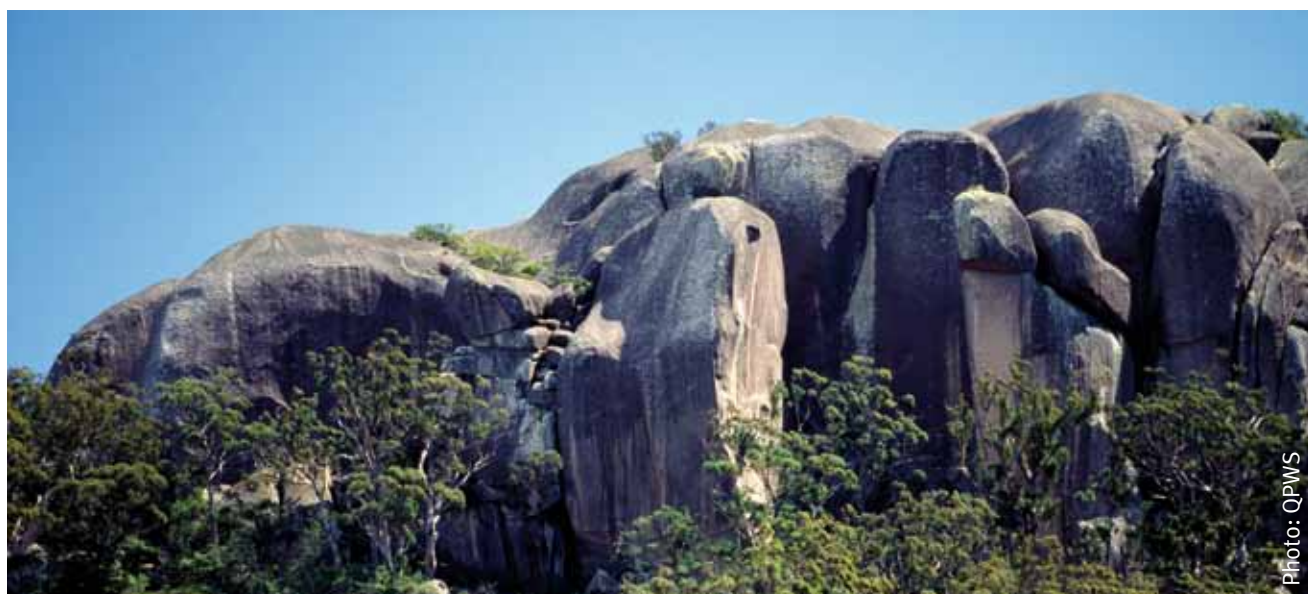
Apart from being a known predator of small mammals, foxes are also known to carry sarcoptic mange. They may be partly responsible for the transfer of this disease and subsequent decline in the number of common wombats in the area.

Goldfish *Carassius auratus* and gambusia *Gambusia holbrooki* have been introduced into some of the river systems in the area and have the potential to compete with native fish and alter the ecology of the national park's aquatic systems. Goldfish have become established in Dr Roberts Waterhole and environs.

Goats and deer have also been recently found on the park and are of growing concern. The heath outcrop vegetation is particularly susceptible to both grazing and trampling by goats (Sparshot 2007).

Table 15 Management strategy for pest animals

Desired outcome 2020	Actions and guidelines
<p>Pest animals are prioritised for management in accordance with the degree of perceived threat posed to the national park's natural environments, and are controlled, or where possible, eradicated.</p>	<p>A106. Manage pest animals in accordance with the operational policy Management of Pests on QPWS-managed Areas – including:</p> <ul style="list-style-type: none"> • using the QPWS Pest Management System and ParkInfo to plan, manage, record and monitor all pests and pest management • where practical and appropriate, participating co-operatively in pest management planning and implementation across the landscape with surrounding land managers, other government departments, local governments and utility providers to ensure landscape-level pest management is successful • following all pest management principles outlined in the QPWS Good Neighbour Policy • ensuring any pest management does not adversely affect the natural integrity of the park and use the best available scientific and technical knowledge. <p>A107. Pest animal management will be consistent with other local or regional pest animal control strategies and plans.</p> <p>A108. Where distributions are localised, such as in the case of goldfish, attempt complete eradication of the pest.</p> <p>A109. Assess pest animal populations using standard monitoring systems.</p>



Girraween National Park

5.4 Fire management

Uncontrolled wildfires can pose a serious threat to national park infrastructure, visitors and neighbouring properties. However, fire is a key feature of the national park's eucalypt forest ecosystem processes and some level of fire is necessary to maintain the health of these communities. Major fires have occurred in the past, on average, at eight-year intervals. Some of these fires have burnt the entire national park area.

The national park's eucalypt communities are particularly prone to fire and the region's relatively dry spring and summer periods predispose the national park to severe wildfires. A Statement of Fire Management Intent has been developed for the national park and guides the annual fire management program. A wildfire response procedure has also been developed in accordance with the QPWS Fire Management System.

Within the park, the vegetation communities most sensitive to fire are the heaths, shrublands and associated communities on granite outcrops. The granite outcrops provide refuge from fire and the vegetation inhabiting these areas is thought to have evolved without the ability to cope with fire.

Also, tall open-forest communities occurring in gullies and moist, sheltered situations around the bases of major outcrops are generally protected from fire.

It has been suggested that frequent fires may also be detrimental to these areas as they generally feature species that are not well-adapted to fire (Sparshott 2007).



Fire management, Girraween National Park

Table 16 Management strategy for fire management

Desired outcome 2020	Actions and guidelines
<p>Life, property and national park neighbours are protected from the impacts of fire.</p> <p>Fire is managed to promote the biological diversity and integrity of native flora and fauna communities, particularly species of conservation significance.</p> <p>Burning regimes are developed that are suitable for the species of conservation significance and the vegetation communities where they occur.</p>	<p>A110. Develop and regularly review a fire management strategy, which includes a review of the Statement of Fire Management Intent.</p> <p>A111. Subject to available resources, undertake research into fire behaviour and vegetation dynamics to inform the fire management strategy.</p> <p>A112. Continue to use the guidelines for fire management of regional ecosystems in DERM's Regional Ecosystem Description Database (REDD) to inform fire management planning.</p> <p>A113. Regulate the frequency and intensity of fire to maintain the plant species composition, structure and ecological dynamics of all vegetation communities.</p> <p>A114. Identify fire indicator species and structural indicators for those vegetation communities that require active fire management or are subject to, or influenced by, fire.</p> <p>A115. Incorporate into the fire management strategy any available knowledge of appropriate fire regimes for fire sensitive or dependant species.</p> <p>A116. Continue the existing fire plot monitoring program.</p> <p>A117. Instigate on-ground fire management by developing and implementing annual burn program plans. The program will detail activities required, such as the location and timing of planned burns and maintenance programs for fire lines.</p> <p>A118. Continue to co-operatively manage fire with the Rural Fire Service and DECCW.</p> <p>A119. Encourage the involvement of the park's neighbours in co-operative fuel management programs.</p>

6.0 References

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(Maps available on http://www.samuseum.sa.gov.au/page/default.asp?site=2&page=TIN_Tribal).

7.0 Hyperlinks

Biodiversity Status <<http://www.derm.qld.gov.au/>>

Bonn Convention <<http://www.cms.int/>>

China-Australia Migratory Bird Agreement <<http://www.austlii.edu.au/>>

Disaster Management Act 2003 <<http://www.legislation.qld.gov.au/>>

DERM website <<http://www.derm.qld.gov.au/>>

Environment Protection and Biodiversity Conservation Act 1999 and regulations 2000 <<http://www.environment.gov.au/>>

Environmental Protection Act 1994 <<http://www.legislation.qld.gov.au/>>

Japan-Australia Migratory Bird Agreement <<http://www.austlii.edu.au/>>

Key threatening process <<http://www.environment.gov.au/>>

Landscape Classification System for Visitor Management <<http://www.derm.qld.gov.au/>>

Nature Conservation Act 1992 <<http://www.legislation.qld.gov.au/>>

Nature Conservation (Protected Areas) Regulation 1994 <<http://www.legislation.qld.gov.au/>>

Nature Conservation (Wildlife Management) Regulation 2006 <<http://www.legislation.qld.gov.au/>>

Queensland Heritage Act 1992 <<http://www.legislation.qld.gov.au/>>

Regional ecosystems <<http://www.derm.qld.gov.au/>>

Republic of Korea-Australia Migratory Bird Agreement <<http://www.austlii.edu.au/>>

8.0 Appendixes

Appendix A – Maps

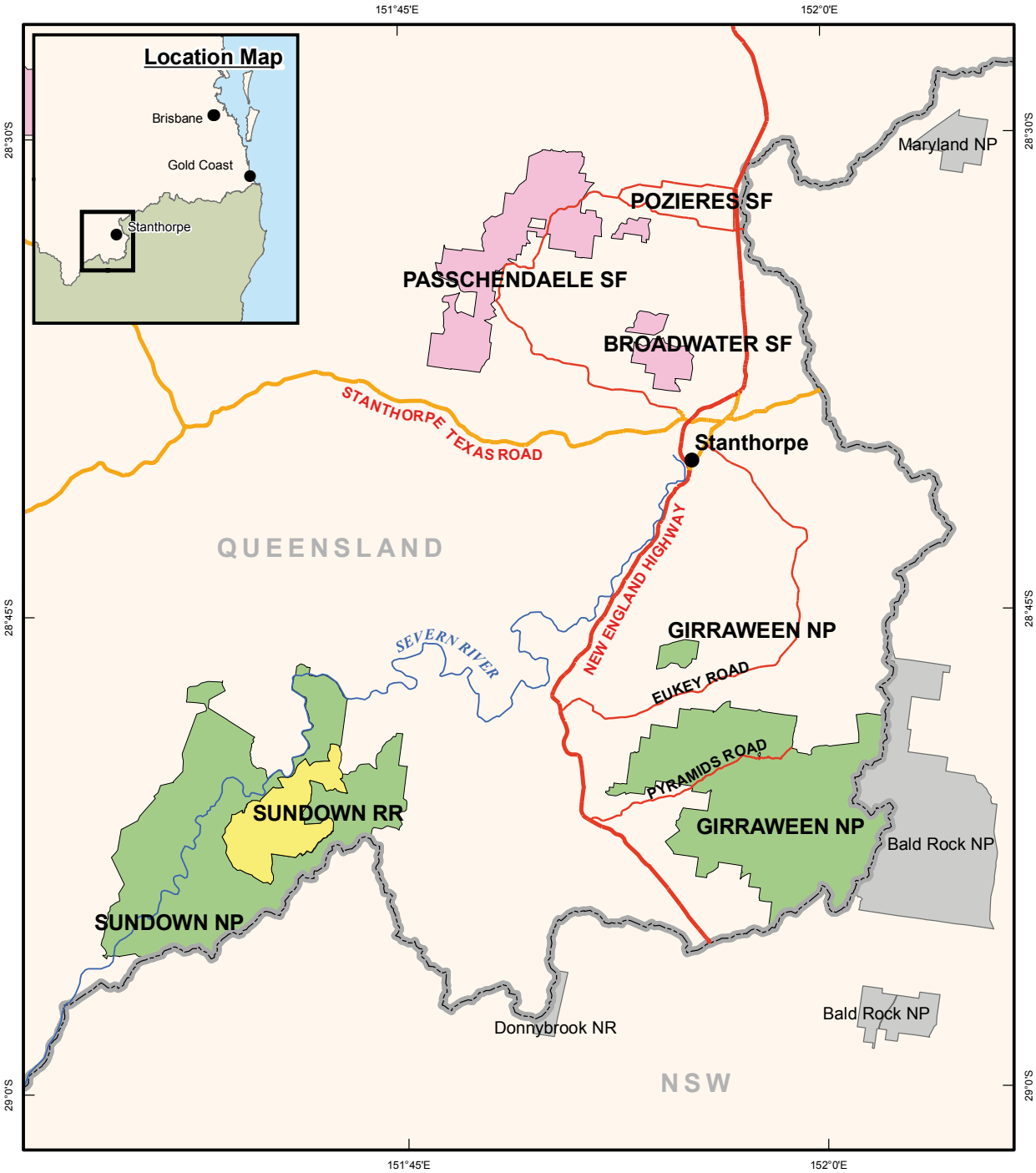
Map 1 Girraween National Park locality

Map 2 New England Tableland Biogeographic Region, Regional Ecosystem Biodiversity status

Map 3 Girraween National Park visitor information

Map 4 Girraween National Park management zones

Map 1 Girraween National Park locality



Map Production:
 Spatial Services,
 Queensland Parks and Wildlife Service,
 Department of Environment and Resource Management.
 2 August 2010

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Accuracy statement:
 Due to varying source, accuracy or currency
 of data layers used in this map, the spatial locations
 of features may not coincide when overlaid.



Source Material:
 Protected Areas of Queensland, DERM; 2010
 State Digital Road Network (SDRN); 2010
 © MapInfo Australia Pty Ltd 2010
 Drainage Network - Rivers QLD (ANZLIC); 2010
 Major Towns of Queensland/ NRM (ANZLIC); 2008
 NSW National Parks and Wildlife Service; 2009

Legend

- Tenure**
- National Park
 - Resources Reserve
 - State Forest

State boundary

- State boundary
- NSW Protected Area

Drainage network

- River

Road network

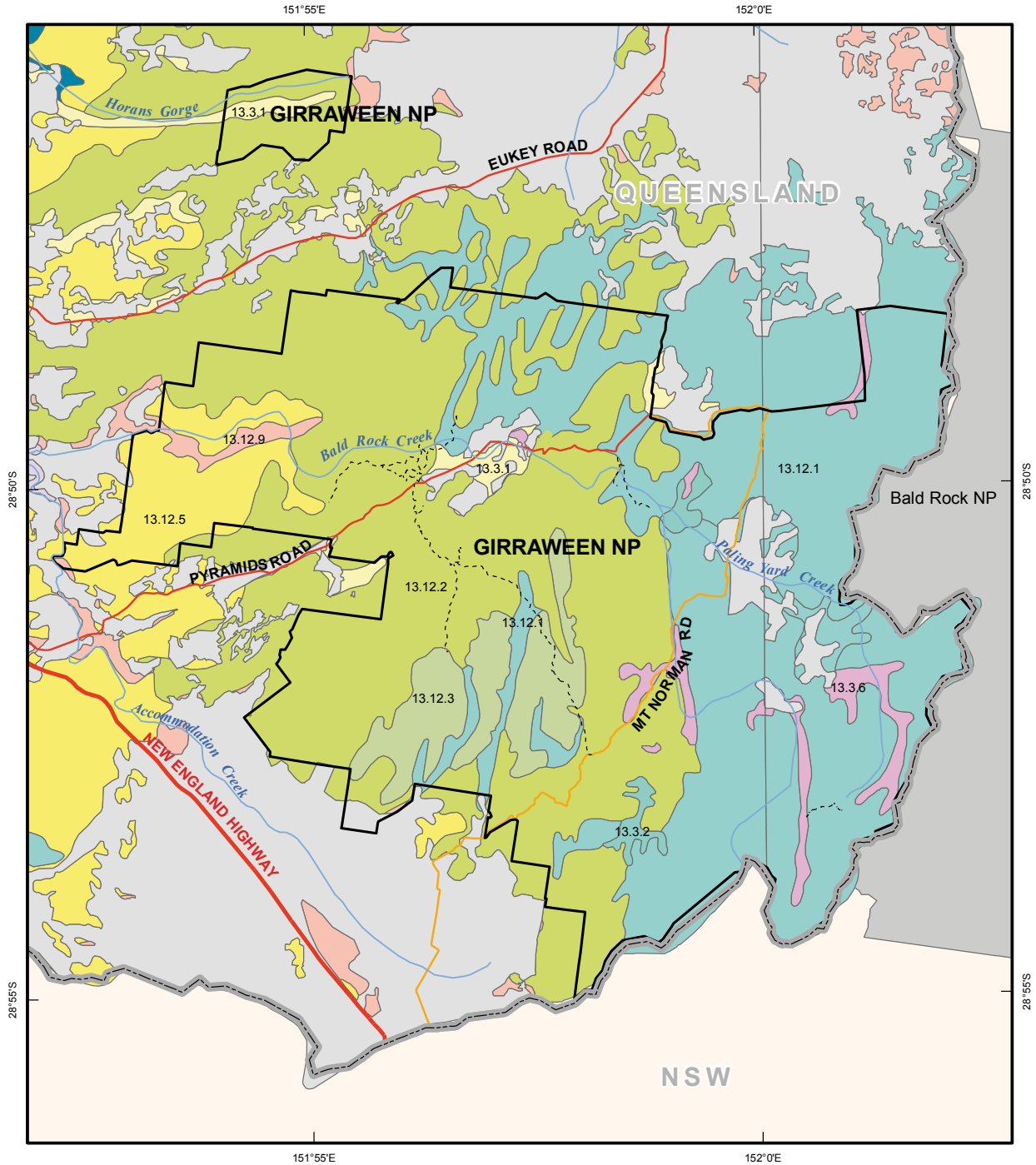
- Highway
- Secondary road
- Local connector road

Major centre

- Town

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Map 2 New England Tableland Biogeographic Region Regional Ecosystem Biodiversity status

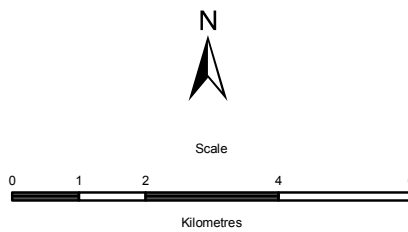


Map Projection:
 Universal Transverse Mercator (MGA) zone 56
Horizontal Datum:
 Geocentric Datum of Australia 1994 (GDA94)

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 Due to varying source, accuracy or currency of data layers used in this map, the spatial locations of features may not coincide when overlaid.



Source Material:
 Regional Ecosystems Remnant Vegetation of Queensland; 2009
 Protected Areas of Queensland, DERM; 2010
 Drainage Network - Rivers QLD (ANZLIC); 2010
 State Digital Road Network (SDRN); 2010
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 DERM tracks and trails data covering the QPWS Estate; 2010

Legend

Regional ecosystem

13.12.1	13.3.1
13.12.2	13.3.2
13.12.3	13.3.6
13.12.5	Non remnant
13.12.9	

Tenure

- QLD National Park
- NSW Protected Area

State boundary

- State boundary

Drainage network

- Creek

Road network

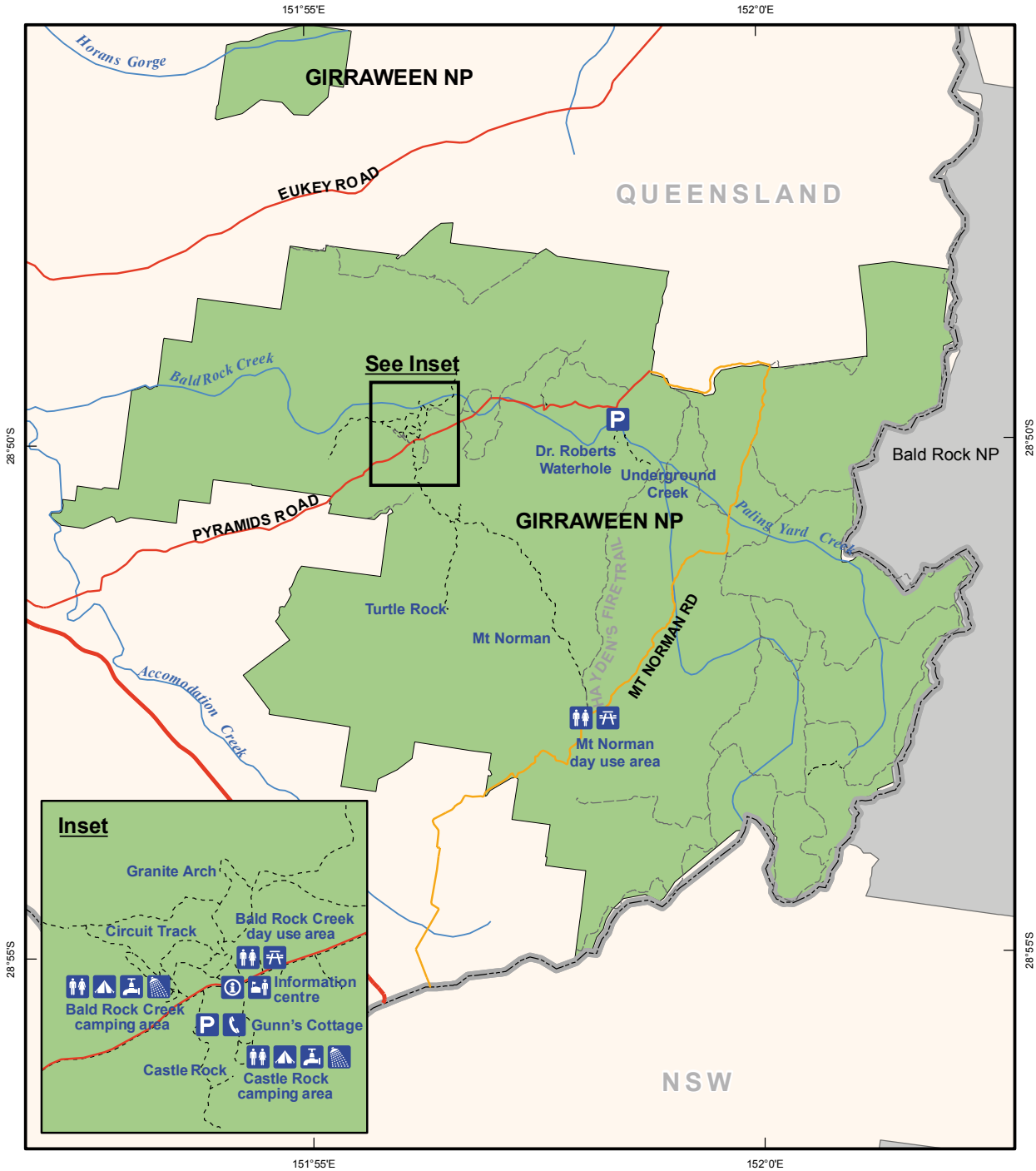
- Highway
- Local connector road
- Street

Trail

- Walking trail

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Map 3 Girraween National Park visitor information



Map Projection:
 Universal Transverse Mercator (MGA) zone 56
 Horizontal Datum:
 Geocentric Datum of Australia 1994 (GDA94)

Map Production:
 Spatial Services
 Queensland Parks and Wildlife Service,
 Department of Environment and Resource Management.
 2 August 2010

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Source Material:
 Queensland Parks and Wildlife Service data sets, 2010
 Protected Areas of Queensland, DERM; 2010
 Drainage Network - Rivers QLD (ANZLIC); 2010
 State Digital Road Network (SDRN); 2010
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Legend

Visitor infrastructure

- Information
- Telephone
- Parking
- Registration
- Camping
- Water
- Shower
- Picnic area
- Toilet

Tenure

- National Park
- NSW Protected Area

State boundary

- State boundary

Drainage network

- Creek

Road network

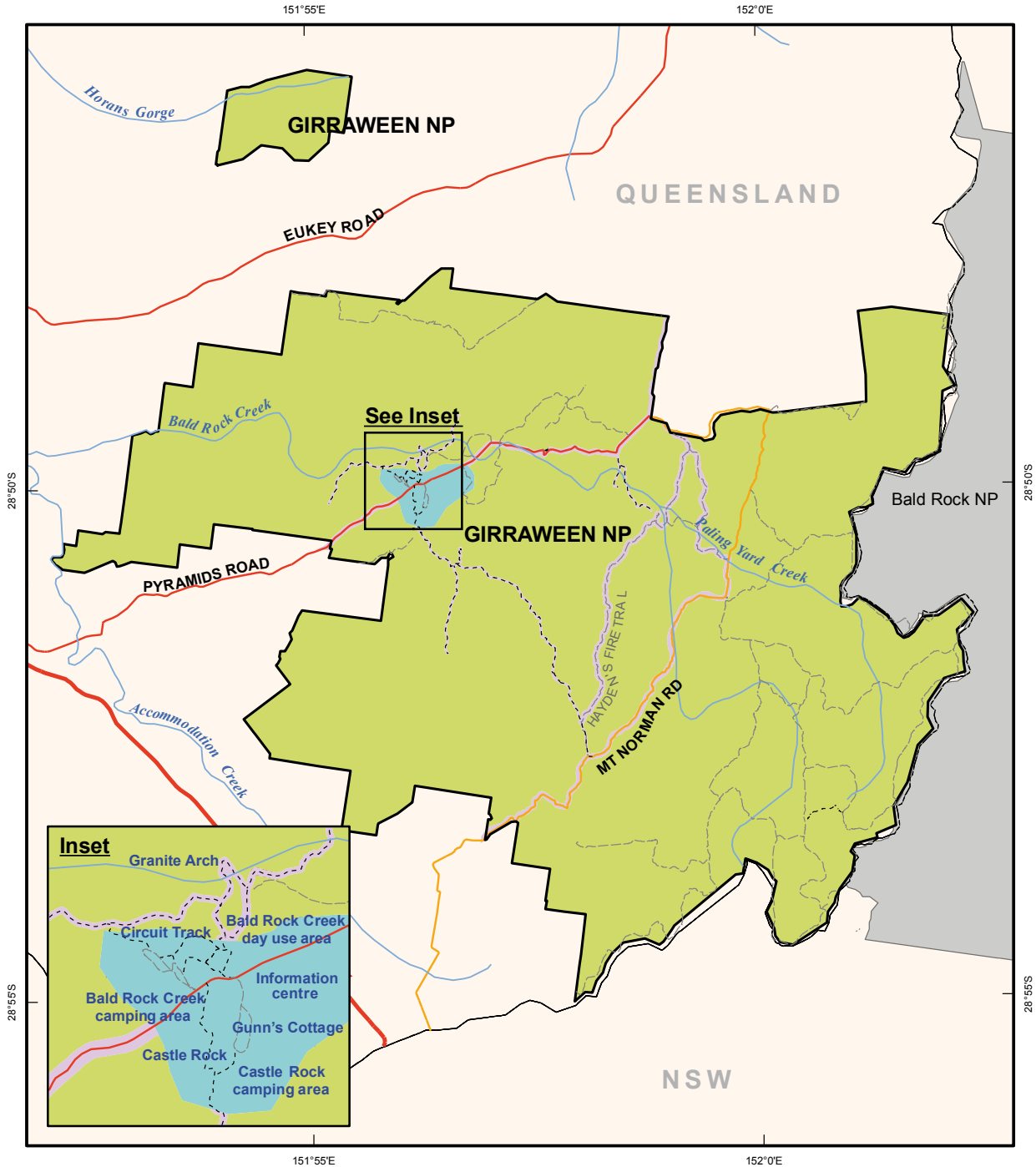
- Highway
- Local connector road
- Street

Trail

- Walking trail
- Fire trail

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Map 4 Girraween National Park management zones



Map Projection:
 Universal Transverse Mercator (MGA) zone 56
 Horizontal Datum:
 Geocentric Datum of Australia 1994 (GDA94)

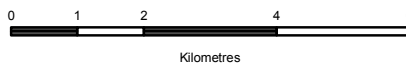
Map Production:
 Spatial Services,
 Queensland Parks and Wildlife Service,
 Department of Environment and Resource Management,
 5 August 2010

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Accuracy statement:
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Scale



Source Material:
 Queensland Parks and Wildlife Services data sets, 2010
 Protected Areas of Queensland, DERM; 2010
 NSW National Parks and Wildlife Service; 2009
 Drainage Network - Rivers QLD (ANZLIC); 2010
 State Digital Road Network (SDRN); 2010
 © MapInfo Australia Pty Ltd 2010
 DERM tracks and trails data covering the QPWS Estate; 2010

Legend

- Management Zone**
 - Developed zone
 - Natural zone
 - Recreation zone
- Tenure**
 - QLD National Park
 - NSW Protected Area
- State boundary**
 - State boundary
- Drainage network**
 - Creek
- Road network**
 - Highway
 - Local connector road
 - Street
 - Fire trail
- Trail**
 - Walking trail

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Appendix B – Definitions and acronyms

Aboriginal cultural heritage	Aboriginal cultural heritage is defined by the <i>Aboriginal Cultural Heritage Act 2003</i> .
Biodiversity status (regional ecosystems)	The biodiversity status is based on an assessment of the condition of remnant vegetation in addition to the pre-clearing and remnant extent of a regional ecosystem. The current biodiversity status of regional ecosystems is given on the Regional Ecosystem Description Database. See Hyperlink – Biodiversity Status for further information including the specific criteria used to assess the biodiversity status.
Climate change	Change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods (United Nations Framework Convention on Climate Change Article 1).
Climate refugia	Climate refugia allow species to persist in the face of climatic stress. It is an area in which certain types or suites of organisms are able to persist during a period in which most of the original geographic range becomes uninhabitable because of climatic change. They are micro-habitats that retain the species necessary niche and habitat requirements during periods of climate change (Mackay et al 2007).
Cultural heritage	The values that people place on the landscape and their experience of it, including their knowledge and traditions, stories, songs, dances and relationships as well as specific places, structures and objects.
Cultural heritage significance	Cultural heritage significance is defined by the <i>Queensland Heritage Act 1992</i>
DECCW	New South Wales Department of Environment, Climate Change and Water (includes New South Wales National Parks and Wildlife Service)
DERM	Department of Environment and Resource Management
Ecosystem	A dynamic complex of plant, animal, fungal and micro-organism communities and the associated non-living environment interacting as an ecological unit.
Endangered (regional ecosystems)	A regional ecosystem is listed with a DERM biodiversity status of endangered if: <ul style="list-style-type: none"> • less than 10 per cent of its pre-clearing extent remains unaffected by severe degradation and/or biodiversity loss*; or • 10–30 per cent of its pre-clearing extent remains unaffected by severe degradation and/or biodiversity loss and the remnant vegetation is less than 10 000 hectares; or • it is a rare* regional ecosystem subject to a threatening process*. <p>* refer to Hyperlinks – Biodiversity Status for further information.</p>
Endangered (species)	At the state level, endangered species are those species listed as endangered under schedule 2 of Queensland’s Nature Conservation (Wildlife) Regulation 2006. At the national level, endangered species are those species listed as endangered under the Commonwealth’s <i>Environment Protection and Biodiversity Conservation Act 1999</i> .
Landscape Classification System (LCS)	The Landscape Classification System (LCS) is a standard classification system for characterising the biophysical, social and management attributes of sites and areas within QPWS-managed areas, from a visitor management perspective. The LCS framework for assessing a site or area systematically describes settings on the basis of biophysical, social and managerial features. The LCS is a tool for assessing the naturalness of landscape settings from a visitor use and management perspective. Naturalness is expressed on a range from completely untouched, wild, natural or remote to completely modified, built or developed depending on the proportion of natural and human-modified elements (post-1788) in the landscape. However, naturalness is not an absolute condition. The naturalness of a particular site or area can vary over time and natural events do not change the degree of naturalness although they may change the natural look of an area. See QPWS operational policy – Landscape Classification System for Visitor Management.

Management principles for national parks	Under Section 17, <i>Nature Conservation Act 1992</i> : (1) A national park is to be managed to: (a) provide, to the greatest possible extent, for the permanent preservation of the area's natural condition and the protection of the area's cultural resources and values (b) present the area's cultural and natural resources and their values (c) ensure that the only use of the area is nature-based and ecologically sustainable. (2) The management principle mentioned in subsection (1)(a) is the cardinal principle for the management of national parks.
Management principles for wildlife	As outlined in the <i>Nature Conservation Act 1992</i> and subordinate legislation.
Near threatened (species)	Near threatened species are those species listed as near threatened under schedule 5 of Queensland's <i>Nature Conservation (Wildlife) Regulation 2006</i> .
Of concern (regional ecosystems)	A regional ecosystem is assigned a DERM biodiversity status of concern if 10–30 per cent of its pre-clearing extent remains unaffected by moderate degradation and/or biodiversity loss. Moderate degradation and/or biodiversity loss is defined as floristic and/or faunal diversity that is greatly reduced but unlikely to recover within the next 20 years even with the removal of threatening processes; or soil surface is moderately degraded.
Protected area	An area of land or sea especially dedicated to the protection and maintenance of biological diversity, and of natural and associated cultural resources, and managed through legal or other effective means.
Species of conservation significance	Species of conservation significance refers to those species that are threatened (that is, endangered, near threatened or vulnerable species), and may also refer to other species that are subject to threats at a regional or local level.
Vulnerable (species)	At the state level, vulnerable species are those species listed as vulnerable under schedule 3 of Queensland's <i>Nature Conservation (Wildlife) Regulation 2006</i> . At the national level, vulnerable species are those species listed as vulnerable under the Commonwealth's <i>Environment Protection and Biodiversity Conservation Act 1999</i> .
Zones	Zones are smaller units in the national park, established to prescribe individual management regimes to each, based on the conservation of natural and cultural values, on presentation values, or managing hazards and visitor safety in the area. For the purposes of this plan, zones are described in Appendix C and outlined in Map 4.

Appendix C – Zones and special management areas

Management characteristics and guiding principles are detailed below for each management zone. However, activities and structures remain subject to the provisions of the managing legislation and the management principles for national parks. The cardinal principle for the use of a national park remains the conservation of nature and the protection of cultural values. To present an area's values these values must be protected; consequently, any use of a national park must be nature-based and ecologically sustainable.

Table 1 – Management zone characteristics and principles

Note:

1. Appendix A, Map 4 shows the location of the zones on the park.
 2. Park management will aim to achieve the stated zone characteristics.
 3. Traditional use, emergency situations and management strategies may override the zone characteristics and will be assessed on a case-by-case basis.
- * QPWS staff should refer to the Facilities Manual for further guidance on facilities appropriate to each Landscape Classification System (LCS) settings.

Natural zone					
General description					
<p>The conservation of natural values is the dominant purpose of this zone. Visitors perceive the area as a predominantly natural environment dominated by native vegetation and landscapes. However, there are some areas of human disturbance, such as fire trails and former agricultural lands, undergoing regeneration.</p> <p>There are no formed walking tracks and few other forms of infrastructure. Visitors are required to be self-sufficient and, if travelling any distance, be experienced at navigation and bushwalking. Overnight bush camping is permitted but numbers are limited to preserve the experience of remoteness and to limit environmental damage. Restrictions apply to the location of camping sites and larger groups are directed to preferred areas.</p>					
Management characteristics	Management aims	LCS *	Expected levels of visitation	Public vehicle access	Pedestrian access or walking tracks
	<p>Manage predominantly for conservation.</p> <p>Natural environments with minimal hardening.</p> <p>Provide for low levels of visitation.</p>	Generally settings 2–3	Low	None, or access to boundaries where appropriate	Walk in, natural foot trails, some formed trails
Day visitor facilities	Signs and interpretation	Campsites	Visitor self-reliance	Group size	
None	Limited, preferably near boundaries	<p>No defined campsites except for larger groups in key areas.</p> <p>Camping is not permitted within 200 m of any constructed walking track or within 500 m of any track end point (recreation zone) or within 1 km of the Pyramids Road (developed zone).</p>	High	8–12 depending on site and conditions	

Recreation zone					
General description					
This zone maintains a recreational setting where visitors can experience nature-based activities in an environment dominated by natural elements, but modified to accommodate the visitor. Visitors can expect a medium level of recreation and social interaction. On-site education and interpretation of the area's values is available, as well as promotion of responsible use and safety. Some sites may be hardened to cater for relatively high levels of visitor use and these areas may have boardwalks, picnic areas (such as Mt Norman) and related infrastructure. In Girraween National Park this zone caters for day-visitors and walking or nature-based activities.					
Management characteristics	Management aims	LCS *	Expected levels of visitation	Public vehicle access	Pedestrian access or walking tracks
	Managed for conservation and low to moderate levels of visitation. Medium level of facilities concentrated at visitor nodes in a predominantly natural environment.	Generally settings 4–6	Medium, day visitation on walking tracks and at carparks and visitor nodes	Sealed or unsealed car parks at visitor nodes	Hardened or natural surface tracks of low to moderate slope (Pyramids track with steep slopes on rocky surface) with steps, boardwalks and railings where appropriate
	Day visitor amenities	Signs and interpretation	Campsites	Visitor self-reliance	Group size
	Well-developed sites with a range of facilities – sheltered tables, barbecues, toilets and water	Some on-site signage on walking tracks and at major features	Nil. Camping not permitted	Moderate	12–25 depending on sites

Developed zone					
General description					
This zone provides for a relatively high level of recreation and social interaction in a natural setting. Areas in this zone may be substantially modified to allow for intensive visitor use, providing a range of visitor facilities and hardened surfaces. This zone caters for high intensity usage and the needs of less experienced and less active visitors and campers.					
Management characteristics	Management aims	LCS *	Expected levels of visitation	Public vehicle access	Pedestrian access or walking tracks
	Managed for moderate to high levels of visitation. Highly modified environments within natural areas, with high levels of facilities.	Generally settings 6–7	High to very high	All vehicle access on sealed or all-weather roads. Sealed or all weather car parks with defined parking bays.	Hardened walking tracks suitable for all park visitors including disabled access. Boardwalks and railings provided where appropriate.
	Day visitor amenities	Signs and interpretation	Campsites	Visitor self reliance	Group size
	Fully developed sites with a range of amenities – sheltered tables, barbecues, toilets, water and information centre.	Comprehensive, on site as required	Fully developed campsites with a range of amenities – barbecues, toilets, showers and water. Camping not permitted outside designated camping areas.	Low	>25 depending on sites

Appendix D Tables

Table 1 – Plant species of conservation significance

Scientific name	Common name	NCA	EPBC
<i>Acacia latisepala</i>		Near threatened	
<i>Acacia pubifolia</i>	Wyberba wattle	Vulnerable	Vulnerable
<i>Acacia ruppii</i>	Rupp's wattle	Vulnerable	Endangered
<i>Allocasuarina rupicola</i>	rock she-oak	Near threatened	
<i>Bertya glandulosa</i>		Vulnerable	
<i>Bertya recurvata</i>		Endangered	
<i>Boronia amabilis</i>		Near threatened	
<i>Boronia granitica</i>	granite boronia	Endangered	Endangered
<i>Caladenia atroclavia</i>		Endangered	Endangered
<i>Callitris monticola</i>	dwarf cypress pine; steelhead	Near threatened	
<i>Conospermum burgessiorum</i>	smoke bush	Near threatened	
<i>Cryptandra lanosiflora</i>	woolly cryptandra	Near threatened	
<i>Derwentia arenaria</i>	granite speedwell	Near threatened	
<i>Dodonaea hirsuta</i>	hairy hop-bush	Vulnerable	
<i>Eucalyptus codonocarpa</i>	bell-fruited mallee; mallee ash	Near threatened	
<i>Eucalyptus scoparia</i>	Wallangarra white gum	Vulnerable	Vulnerable
<i>Euphrasia orthocheila subsp. peraspera</i>	yellow eye-bright	Near threatened	
<i>Genoplesium sigmoideum</i>		Near threatened	
<i>Hakea macrorrhyncha</i>		Near threatened	
<i>Hibbertia elata</i>	guinea flower	Near threatened	
<i>Homoranthus papillatus</i>	mouse bush	Vulnerable	
<i>Huperzia varia</i>	long clubmoss	Vulnerable	
<i>Kardomia granitica</i>		Endangered	Vulnerable
<i>Kardomia silvestris</i>		Endangered	
<i>Leionema ambiens</i>		Near threatened	
<i>Macrozamia viridis</i>		Endangered	
<i>Melaleuca flavovirens</i>		Near threatened	
<i>Mirbelia confertiflora</i>		Near threatened	
<i>Olearia gravis</i>	daisy bush	Near threatened	
<i>Persoonia daphnoides</i>	creeping geebung	Near threatened	
<i>Phebalium whitei</i>	White's phebalium	Vulnerable	Vulnerable
<i>Prostanthera petraea*</i>	mintbush	Near threatened	

Scientific name	Common name	NCA	EPBC
<i>Pterostylis woollsii</i>	long-tailed greenhood	Near threatened	
<i>Pultenaea pycnocephala</i>		Near threatened	
<i>Thelionema grande</i>	granite lily	Near threatened	
<i>Tylophora woollsii</i>		Endangered	Endangered
<i>Westringia amabilis</i>		Near threatened	

NCA Status under the *Nature Conservation Act 1992*

EPBC Status under the *Environment Protection and Biodiversity Conservation Act 1999*

* Listed under the Nature Conservation (Wildlife) Regulation 2006 as *Prostanthera* sp.
(Wallangarra T.D.Stanley 7876)

Table 2 – Animal species of conservation significance

Scientific name	Common name	NCA	EPBC
<i>Anthochaera phrygia</i>	regent honeyeater	Endangered	Endangered
<i>Adelotus brevis</i>	tusked frog	Vulnerable	
<i>Calyptorhynchus lathami lathami</i>	glossy black-cockatoo (eastern)	Vulnerable	
<i>Dasyurus maculatus maculatus</i>	spotted-tailed quoll (southern subspecies)	Vulnerable	
<i>Litoria subglandulosa</i>	New England treefrog	Vulnerable	
<i>Ninox strenua</i>	powerful owl	Vulnerable	
<i>Stipiturus malachurus</i>	southern emu wren	Vulnerable	
<i>Litoria pearsoniana</i>	cascade tree frog	Vulnerable	
<i>Accipiter novaehollandiae</i>	grey goshawk	Near threatened	
<i>Climacteris erythroptis</i>	red-browed treecreeper	Near threatened	
<i>Lophoictinia isura</i>	square-tailed kite	Near threatened	
<i>Menura novaehollandiae</i>	superb lyrebird	Near threatened	
<i>Neophema pulchella</i>	turquoise parrot	Near threatened	
<i>Nephurus sphyrurus</i>	border thick-tailed gecko	Near threatened	Vulnerable
<i>Vombatus ursinus</i>	common wombat	Near threatened	
<i>Wollumbinia belli</i>	Bell's turtle	Least concern	Vulnerable
<i>Maccullochella peelii peelii</i>	Murray cod		Vulnerable

NCA Status under the *Nature Conservation Act 1992*

EPBC Status under the *Environment Protection and Biodiversity Conservation Act 1999*

Table 3 – Regional Ecosystems of Girraween National Park

Regional ecosystem number	Regional ecosystem name	DERM biodiversity status	Reason for status and threats to on-going sustainability
13.3.1	<i>Eucalyptus blakelyi</i> woodland on alluvial plains	Endangered	Habitat for flora species of conservation significance including <i>Melaleuca flavovirens</i> and <i>Melaleuca williamsii</i> . Subject to invasion by blackberry.
13.3.2	<i>Eucalyptus nova-anglica</i> open forest on alluvial plains	Endangered	Habitat for flora species of conservation significance including <i>Persoonia daphnoides</i> . Only known Queensland population of <i>Grevillea juniperina</i> . Remnants subject to dieback and blackberry invasion.
13.3.6	Sedgeland on igneous rocks	Endangered	Northern limit of the temperate adapted species <i>Eucalyptus camphora</i> and <i>Olearia glandulosa</i> . Provides wetland habitat for flora and fauna. A rare regional ecosystem subject to pig damage and infestation from the grass <i>Andropogon virginicus</i> in places.
13.12.1	<i>Eucalyptus campanulata</i> open forest on igneous rocks	Of concern	Habitat for flora species of conservation significance including <i>Grevillea scortechinii</i> , <i>Hibbertia elata</i> , <i>Caladenia atroclavia</i> , <i>Pultenaea stuartina</i> , <i>Persoonia daphnoides</i> , <i>Phebalium ambiens</i> , <i>P. amabilis</i> and <i>Huperzia varia</i> . The combination of fragmentation and isolation, altered fire frequency and intensity and weeds is having an observable negative impact on species composition. Fragmentation and altered fire regimes may affect viability, blackberry infestation common.
13.12.2	<i>Eucalyptus andrewsii</i> , <i>E. youmanii</i> woodland on igneous rocks	No concern at present	Habitat for flora species of conservation significance including <i>Acacia pubifolia</i> , <i>A. latisejala</i> , <i>A. bruniooides</i> subsp. <i>granitica</i> , <i>A. ruppii</i> , <i>Eucalyptus magnificata</i> , <i>Grevillea scortechinii</i> , <i>Hibbertia elata</i> , <i>Pultenaea stuartina</i> , <i>Conospermum burgessiorum</i> , <i>Tylophora woollsii</i> , <i>Boronia amabilis</i> , <i>B. granitica</i> , <i>B. repanda</i> , <i>Rulingia hermanniifolia</i> , <i>Phebalium whitei</i> , <i>Olearia gravis</i> , <i>Bertya glandulosa</i> , <i>Cryptandra lanosiflora</i> , <i>Macrozamia viridis</i> and <i>Hakea macrorrhyncha</i> . Altered fire regimes may affect viability.
13.12.3	<i>Eucalyptus scoparia</i> woodland on igneous rocks	Of concern	A rare ecosystem wholly contained within Girraween National Park.
13.12.5	<i>Eucalyptus youmanii</i> on igneous rocks	No concern at present	Habitat for flora species of conservation significance including <i>Homoranthus montanus</i> , <i>Acacia pubifolia</i> , <i>Astrotricha roddii</i> and <i>Eriostemon myoporoides</i> subsp. <i>conduplicata</i> . Restricted to drier parts of bioregion.
13.12.6	Shrubland on igneous rocks	Of concern	Habitat for flora species of conservation significance including <i>Boronia granitica</i> , <i>B. repanda</i> , <i>B. amabilis</i> , <i>Callitris monticola</i> , <i>Homoranthus papillatus</i> , <i>Phebalium whitei</i> , <i>P. rotundifolium</i> and <i>Thelionema grande</i> .
13.12.8	<i>Eucalyptus melliodora</i> and/or <i>E. moluccana</i> / <i>E. microcarpa</i> and/or <i>E. conica</i> woodland on igneous rocks	Endangered	West of the granitic subregions. Cleared for agriculture and horticulture.
13.12.9	<i>Eucalyptus blakelyi</i> and/or <i>E. caliginosa</i> woodland to open forest on igneous rocks	Endangered	Habitat for flora species of conservation significance including <i>Eucalyptus magnificata</i> , <i>Macrozamia viridis</i> , <i>Pterostylis woollsii</i> , <i>Grevillea scortechinii</i> and <i>Acacia ruppii</i> . Differs from 13.3.1 in land zone and secondary species. Cleared for agriculture and horticulture.

Queensland Herbarium (2009) Regional Ecosystem Description Database (REDD). Version 6.0b Updated November 2009, (November 2009) (Department of Environment and Resource Management: Brisbane).

Table 4 – Pest plants for Girraween National Park

Species	Common name	Species	Common Name
<i>Acetosella vulgaris</i>	sheep sorrel	<i>Hypericum perforatum</i>	St John's wort
<i>Aira caryophylla</i>	silvery hairgrass	<i>Hypochaeris glabra</i>	smooth catsear
<i>Aira cupaniana</i>		<i>Hypochaeris radicata</i>	catsear
<i>Anagallis arvensis</i>	scarlet pimpernel	<i>Juncus cognatus</i>	
<i>Andropogon virginicus</i>	whisky grass	<i>Lactuca serriola forma serriola</i>	
<i>Anthoxanthum odoratum</i>	sweet vernal grass	<i>Lepidium bonariense</i>	
<i>Avena sterilis subsp. ludoviciana</i>	wild oat	<i>Lolium perenne x L. rigidum</i>	ryegrass
<i>Bidens pilosa</i>	cobbler's pegs	<i>Oenothera stricta</i>	evening primrose
<i>Briza maxima</i>	quaking grass	<i>Paronychia brasiliiana</i>	Brazilian whitlow
<i>Briza minor</i>	shivery grass	<i>Paspalum dilatatum</i>	common paspalum
<i>Bromus unioloides</i>	prairie grass	<i>Petrorhagia nanteuillii</i>	proliferous pink
<i>Centaureum erythraea</i>	common centaury	<i>Phytolacca octandra</i>	inkweed
<i>Conyza bonariensis</i>	flaxleaf fleabane	<i>Plantago lanceolata</i>	lamb's tongue
<i>Conyza canadensis var. pusilla</i>	Canadian fleabane	<i>Poa annua</i>	winter grass
<i>Conyza primulifolia</i>		<i>Prunus armeniaca</i>	
<i>Conyza sumatrensis</i>		<i>Richardia stellaris</i>	
<i>Coreopsis lanceolata</i>	coreopsis	<i>Rosa rubiginosa</i>	sweet briar
<i>Cosmos bipinnatus</i>	cosmos	<i>Rostraria cristata</i>	annual cat's tail
<i>Cyclosporum leptophyllum</i>	slender celery	<i>Rubus anglocandicans * #</i>	blackberry
<i>Cyperus flavescens</i>		<i>Schkuhria pinnata</i>	
<i>Cyperus sesquiflorus</i>		<i>Sigesbeckia orientalis</i>	Indian weed
<i>Dittrichia graveolens</i>	stinkwort	<i>Silene gallica</i>	French catchfly
<i>Echium plantagineum</i>	Paterson's curse; salvation Jane	<i>Solanum chenopodioides</i>	
<i>Eleusine tristachya</i>		<i>Solanum nigrum subsp. nigrum</i>	black-berry nightshade
<i>Eragrostis curvula</i>	African love grass	<i>Sonchus asper subsp. asper</i>	
<i>Eragrostis mexicana</i>	Mexican love grass	<i>Sonchus asper subsp. glaucescens</i>	
<i>Erodium cicutarium</i>	common crowfoot	<i>Stellaria media</i>	
<i>Fumaria muralis</i>		<i>Tagetes minuta</i>	stinking roger
<i>Gamochaeta pensylvanica</i>		<i>Tolpis barbata</i>	
<i>Guilleminea densa</i>		<i>Verbascum virgatum</i>	Twiggy mullein
<i>Heliotropium amplexicaule</i>	blue heliotrope	<i>Verbascum thapsus</i>	Aaron's rod
<i>Hordeum glaucum</i>	barley grass		

Pest plant data taken from Sparshott, K. Protecting the natural flora values of Girraween National Park Comprehensive Vegetation Report (QPWS Report).

* Class three under *Land Protection (Pest and Stock Route Management) Act 2002*

Weed of National Significance (WONS) under the National Weeds Strategy.

Table 5 – List of recovery/management plans and guidelines

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