Summary

This management plan provides the framework and guidelines on how Burleigh Head National Park will be managed. It sets out the considerations, outcomes and strategies that are proposed to form the basis on which day-to-day management decisions are made.

This plan was prepared in July 1999 and, in accordance with s 125 of the Nature Conservation Act 1992, will be reviewed not later than 10 years after its approval. For further information on this plan or the planning process, please contact the Queensland Parks and Wildlife Service Southern Regional Centre in Moggill, Brisbane, on (07) 3202 0200 during business hours.

This management plan was prepared by Queensland Parks and Wildlife Service staff. Thanks are due to those groups and individuals who made submissions in response to the draft plan.

Cover photograph: Burleigh Head

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1 Introduction

Burleigh Head National Park covers 27.6ha and is situated at Burleigh Heads in south-east Queensland. It was gazetted as a national park in 1947 and is now the only Gold Coast rocky headland that is substantially in its natural state. A variety of habitats including lowland rainforest and pandanus grove are conserved on the park. It also contains interesting geological forms and is of important cultural heritage significance to the Kombumerri Aboriginal people. The park provides a popular recreational and educational venue for local and international visitors and is one of the most heavily visited parks in the region. The management plan sets the guidelines for the future management of the national park within legislative framework provided by the Nature Conservation Act 1992.

2 Management directions and purposes

2.1 Management directions

The park will be managed specifically to retain an example of the original and natural environment of the area and to enhance and promote traditional and contemporary cultural values. Walking track access and interpretation will be managed to enhance recreational and educational opportunities.

2.2 Management purposes

The major purposes of management will be to ensure that:

- significant plant and animal species or vegetation community types including those that are rare or threatened, are protected;
- fire and weed management is aimed at maintaining the natural species diversity of vegetation communities occurring on the park;
- Gold Coast City Council (GCCC), community groups and volunteers are involved with day-to-day management of the park including special projects such as site rehabilitation and weed control;
- opportunities are provided for environmental education and scientific research;
- Aboriginal groups with traditional links to the area are involved in park management;
- interpretation on the park informs the visitor of the park’s natural and cultural heritage values; and
- recreational and tourism use is managed so that visitors are able to enjoy a safe, nature-based experience without compromising the park’s natural integrity.

3 Basis for Management

Burleigh Head National Park is dedicated under the Nature Conservation Act 1992 and must be managed under s 17 of the Act to:

- provide for the permanent preservation of the area’s natural condition to the greatest possible extent;
- present the area’s cultural and natural resources and their values; and
- ensure that the only use of the area is nature-based and ecologically sustainable.

The Native Title Act 1993 places obligations on the management of areas designated under the Nature Conservation Act 1992. Notification is given to native title claimants and Native Title Representative Bodies in the area on the preparation of management plans, fire management plans and the undertaking of prescribed burning where possible.

The requirements of other legislation will be met where necessary.
3.1 Location and planning area

The Burleigh headland was first set aside as a reserve for public purposes in 1886 and in 1947 was gazetted a national park. Burleigh Head National Park covers 27.6ha and is situated on the Gold Coast Highway at Burleigh Heads on the south Queensland coast. It is situated about 5km north of the New South Wales border. Access to the northern section of the park may be gained from Goodwin Terrace carpark and the southern entrance to the park is accessed through traffic lights at the Queensland Parks and Wildlife Service (QPWS) Information Centre off the Gold Coast Highway. The information centre is located on the park and provides local and statewide information on recreation and conservation.

3.2 Regional Context

Burleigh Head National Park has impressive geological landforms derived from a basalt flow associated with the Mount Warning (Tweed) Shield Volcano. It protects a variety of coastal habitat types including pandanus grove and lowland rainforest, most of which has been cleared locally and throughout the region. The park also is of important cultural heritage significance to the Kombumerri Aboriginal people. Scenic walking tracks provide access to the park’s interesting features including rainforest and spectacular ocean views. It has therefore become a popular recreational and educational venue for local and international visitors.

3.3 Values of Burleigh Head National Park

Geology and landform

The formation of Burleigh headland began between 23-25 million years ago when the large Mount Warning volcano in the Gold Coast hinterland was active. Molten basalt lava from the volcano flowed down valleys eroded in ancient hardened sedimentary rocks before reaching what is now the headland. Cooling and contraction of the thick lava resulted in the formation of long six sided basaltic columns which capped the underlying sedimentary rocks. Over millions of years wave action and rain seepage eroded the softer sedimentary rock to gradually undermine the basalt capping. This has resulted in columns of basalt falling seawards as evidenced by the boulder strewn shoreline. This unstable geological nature of the headland results in basalt columns still periodically toppling downslope.

Plants and animals

A variety of interesting vegetation community types is present on the park.

Fertile basalt-derived soils support complex notophyll vineforest. Lowland rainforest of this type has been extensively cleared with less than 10% remaining. It has been thus classified as an endangered ecosystem. The rainforest also supports threatened plant species listed under the Nature Conservation (Wildlife) Regulation 1994 including the endangered Randia moorei, the vulnerable Cryptocarya foetida, Endiandra hayesii, Tinospora tinosporoides and Macadamia integrifolia, and the rare Cupaniopsis newmanii and Cordyline congesta.

Pararistolochia praevosa, host vine for the endangered Richmond Birdwing butterfly Ornithoptera richmondia occurs in the rainforest and this beautiful butterfly is on the park. The national park is used as a site in a community recovery program for the butterfly.

A pandanus grove of Pandanus tectorius var. pedunculatus is present on the coastline. These trees with their distinctive appearance are a familiar aspect of Queensland’s coastal landscape. Over the last two to three years these communities have become vulnerable due to attack by the insect Jamella australiae. Native to north Queensland, the insect may have been introduced in nursery grown pandanus from that part of the state. Two species of Aphanomerus wasps from north Queensland, natural predators of the Jamella australiae were released as a biological control and are being closely monitored.
Tall eucalypt forest/open woodland features on the poorer sedimentary-derived soils and is characterised by grey-leaved ironbark *Eucalyptus siderophloia*, pink bloodwood *Corymbia intermedia* and brushbox *Lophostemon confertus*. A heathy understorey is often present and changes to rainforest in conjunction with differing soil types. This ecosystem type is poorly represented in Queensland's reserve system and other areas are subject to increasing pressure from urban development.

Three species of mangrove grey mangrove *Avicennia marina*, milky mangrove *Excoecaria agallocha* and river mangrove *Aegiceras corniculatum* are scattered along Tallebudgera Creek and swamp oak *Casuarina glauca* are found above them. Mangroves provide important habitat for marine life including several commercial fish species.

A small area of tussock grassland dominated by kangaroo grass *Themeda triandra* occurs near a rainforest section of the park. This vegetation was possibly maintained by the Kombumerri people with fire to encourage grazing by prey such as the red legged pademelon *Thylagale stigmatica*, which is no longer present on the park. In the 1950s these grassland sections were heavily grazed by straying cattle and are currently subjected to unauthorised fire on a regular basis.

Although the park is affected by the pressures of isolation, weeds and domestic and feral animals it still provides refuge for a variety of fauna no longer common on the Gold Coast. The lace monitor *Varanus varius*, echidna *Tachyglossus aculeatus*, land mullet *Egernia major*, mountain possum *Trichosurus caninus*, brushtail possum *Trichosurus vulpecula* and ringtail possum *Pseudocheirus peregrinus* have been seen on the park. Koalas *Phascolarctos cinereus* are occasionally seen in the canopy. A high diversity of bird species including migratory birds utilise resources on the park. The brush turkey *Alectura lathami* is present on the park in unusually high numbers. This may be due to feeding of the birds and increased access to fresh water. Other notable bird species sighted on or near the park include the rainbow bee-eater *Merops ornatus*, white-breasted sea eagle *Haliaetus leucogaster*, osprey *Pandion haliaetus* and Australian goshawk *Accipiter fasciatus*.

**Cultural heritage**

The Burleigh Headland is referred to as Jellurgal by the Kombumerri people, a family group belonging to Yugambeh language. The Kombumerri territory stretches from the Coomera River in the north to the Tweed river in the south and west to the Gold Coast hinterland. Jellurgal has always been a central feature in the lifestyle of the Kombumerri people and a sacred place protected by powerful spirits. It was formed in the Dreamtime when Jarbreen the Creation Spirit stretched as he woke after feeding on honey from stingless native bees (sugarbag). Jarbreen was as big as Jellurgal itself and as he stretched the land followed him skywards. His giant rocky fingers can still be seen stretching out from the headland (O'Connor, 1997).

Jellurgal was a focal point in the lives of the Kombumerri people. The park contains significant shell middens, evidence of a rich traditional use by Aboriginal people who used Tallebudgera Creek and neighbouring beaches to gather shellfish and net fish, dugong and prawns. Most other middens on the Gold Coast have been destroyed. The area around the headland was used for corroborees and dances, attracting people from throughout the region. Jebbribillum Bora Ring is located nearby and was used for initiation and celebration.

**Scenic and aesthetic**

Burleigh Head National Park forms an island of natural landscape amid the highly urbanised Gold Coast. The forested profile of the headland has become a prominent Gold Coast landmark. Visitors come to enjoy a natural rainforest setting with spectacular ocean views.

**Scientific and educational**

The proximity of the park to developed and highly urbanised areas puts it within easy reach of many different educational and research institutions.
School groups from all over south-east Queensland use the park to study its diverse ecosystems and their individual components including geology, vegetation and plants, and animals.

Groups from research institutions such as Griffith University have shown interest in conducting ecological research at Burleigh Head.

Recreation and tourism

Burleigh Head is one of the most highly visited national parks in Queensland with an estimated 300 000 visitors each year. It provides an important recreational resource for the Gold Coast, attracting local, statewide and international visitors. The Information Centre provides visitors from southern states with an introduction to the Queensland National Parks and Wildlife Service and information on the state’s protected areas.

Burleigh Head caters for a broad spectrum of user groups. Day visitors may picnic in surrounding GCCC parks before enjoying a scenic walk through the national park. Pathways on the park are well-formed and easily navigable thus appealing to visitors of different fitness levels including retirees who have settled on the Gold Coast. Many local people use the area for daily exercise such as power-walking.

4 Management strategies

4.1 Natural resource management

Native plants

Current situation

Flora surveys have been conducted by the Queensland Herbarium and a plant species list was prepared for the park in 1993, identifying six rare or threatened species. Another rare plant Cordyline congesta has been added to this list. These rare or threatened plants and the vegetation communities they occur in are threatened by a variety of factors. Weeds and too frequent fire threaten their integrity and the increasing isolation of the park may affect the regeneration of species dependent on animals for seed dispersal.

The pandanus grove is vulnerable due to the threat of dieback caused by the flatid Jamella australiae, accidentally introduced from north Queensland. Both the chemical control of a pesticide trunk injection and a biological control involving the release of two species of wasp Aphanomerus species (the flatid’s natural predator) are being monitored at Burleigh Head National Park.

A number of native species such as hoop pine Araucaria cunninghamii, the cabbage palm Livistona australis and piccabeen palm Archontophoenix cunninghamiana do not occur naturally on the park, and were planted in the 1950s. These plants do not appear to be affecting the regeneration of indigenous species on the park.

A nursery has been established at the Gold Coast Management Unit to propagate indigenous plants for park rehabilitation projects.

Desired outcomes

The biological diversity and integrity of native plant communities is maintained subject to natural change. An improved baseline inventory of park flora and vegetation communities is available and ecological change is monitored.
Proposed policies, guidelines and actions

- Prepare and implement a weed control program which targets particularly invasive species.
- Survey and map the locations of noteworthy species and keep photographic records at the Park and District Office.
- Liaise with tertiary institutions to obtain information and to encourage scientific research which increases knowledge of the management requirements of different plant (and animal) species and vegetation communities.
- Implement any recovery or conservation plans for threatened species such as the Richmond Birdwing Recovery Plan.
- Continue the pandanus dieback program and undertake regeneration of the pandanus if necessary.
- Close degraded areas to public use for rehabilitation if necessary.
- Engage support from work experience students and volunteers in managing the plant nursery at the Gold Coast Management Unit.

Native animals

Current situation

The native fauna on the park probably suffers from a variety of impacts including isolation from other natural areas, habitat alteration caused by weeds and the intrusion of feral and domestic animals. Major roads bounding the park prevent wildlife such as koalas from safely accessing nearby habitat areas.

Research groups from nearby educational institutions have shown interest in conducting research on the fauna of Burleigh Head National Park.

Brush turkeys were not originally recorded on the park in large numbers. The high numbers are possibly being sustained from feeding by residents. Regeneration of rainforest plants appears to have diminished due to turkeys constantly raking the undergrowth to build nesting mounds.

Desired outcomes

Native fauna including rare and threatened species are protected and a natural balance of fauna is maintained in the different habitat types.
An improved baseline inventory of park fauna is available and ecological change is monitored.

Proposed policies, guidelines and actions

- Conduct a fauna survey on the park.
- Encourage local community groups and research institutions to conduct fauna research which will increase the park resource inventory and assist park management. Only projects that cause minimal impact on the environment will be approved.
- Study the effects the unnaturally high brush turkey population has on the diversity and regeneration of plant species.
- Incorporate the consequences of feeding native animals into park interpretation and education.
- Examine the effects of isolation on the existing animal population of the park.
Introduced plants and animals

Current situation

Weeds are a major problem on the park and are seriously degrading the park’s conservation values. Many of the weeds are from nearby residential developments and a former nursery which once bordered a section of the park.

Environmental weeds currently threatening the integrity of the park include Singapore daisy *Wedelia trilobata*, mother of millions *Bryophyllum* spp., African asparagus fern *Protoasparagus densiflorus*, climbing asparagus fern *Protoasparagus africanus*, lantana *Lantana camara*, creeping lantana *Lantana montevidensis*, mistflower *Ageratina riparia* (declared plant), ochna *Ochna serrulata*, corky passion vine *Passiflora suberosa*, Brazilian nightshade *Solanum seaforthianum*, coral berry *Rivina humilis* and umbrella tree *Schefflera actinophylla*. Some of these weeds, for example, asparagus fern, are particularly invasive and have out-competed most of the native vegetation on some steep slopes at the southern entrance to the park.

The proximity of the park to residential development has resulted in domestic cats and dogs having adverse impacts on the park’s native fauna. The Gold Coast City Council works with QPWS to conduct dog control on the national park and surrounding beaches. Additional signage has also been installed.

Feral animals including feral cats are possibly present on the park.

Desired outcomes

The adverse impacts on the park from weeds and domestic and feral animals are minimised.

Proposed policies, guidelines and actions

Develop a long term weed action plan for the park to include:
• mapping park weeds and recommending priorities for their control and appropriate control methods;
• undertaking weeding activities that will enable natural regeneration;
• undertaking weeding activities directly after weeding to prevent reinfestation;
• identifying and removing Dutchman’s pipe as a priority in line with the Richmond Birdwing butterfly recovery plan;
• weed removal which carefully considers associated erosion problems on steep slopes;
• identifying and controlling any new weed species and outbreaks;
• liaising with local landholders and authorities;
• involving community groups, local volunteers and employment programs in weed control and investigating funding sources for these projects;
• initiating a public education campaign for park neighbours and other interest groups on environmental weeds and their threats to natural vegetation;
• maintaining the nursery at Gold Coast Management Unit base to allow indigenous seed to be propagated and used for rehabilitation projects on the park; and
• linking the plan with the South East Queensland Environmental Weeds Strategy being developed by the Rural Lands Protection Board.

To minimise problems of domestic and feral animals on the park:
• develop a public education campaign regarding the harmful effects of domestic animals on native wildlife;
• continue to liaise with Gold Coast City Council regarding dog patrols on the park and surrounding beaches;
• issue fines for people who continue to walk dogs on the park;
• investigate the problem of feral animals on the park and commence feral cat and fox control if necessary; and
• investigate the use of traps to control stray and feral animals.
Fire management

Current situation

Sections of the park are suffering from too frequent fires caused by arson. These fires are often lit in school holiday periods and have the potential to cause significant damage to the park if not detected and extinguished early. These fires are reducing the rainforest area on the headland and allowing the invasion of various weed species.

Desired outcomes

Appropriate fire management protects the natural diversity of plant and animal communities on the park.

Proposed policies, guidelines and actions

Develop a fire response plan for the park which includes:

• locating adequate fire access points around the boundary;
• detailing emergency response procedures and methods of early fire detection;
• liaising with park neighbours, local fire brigade, Gold Coast City Council and other relevant authorities;
• notifying the Kombumerri people and FAIRA on the development of the fire response plan;
• increasing ranger patrols on the park where possible; and
• incorporating frequently burnt areas into a revegetation program.

4.2 Cultural heritage

Current situation

A number of cultural heritage sites are present on the park and the headland is an integral component of the overall cultural landscape of the area.

Kalwun Corporation (Kombumerri) has an agreement for use of the QPWS Information Centre at Burleigh Heads, from which they conduct retail, cultural and special functions. Kalwun also conducts commercial and educational activities on the park under a QPWS Commercial Activity Permit.

The Kombumerri Aboriginal Corporation for Culture in association with QPWS produced a Kombumerri Aboriginal Guide brochure for the park. The corporation is keen for Kombumerri people to become involved in park management through employment programs or similar schemes.

A native title claim covering Burleigh Head National Park has been lodged with the National Native Title Tribunal on behalf of the Kombumerri people.

Desired outcomes

Aboriginal groups with traditional affiliations with the area are involved in park management.
Aboriginal cultural heritage sites are identified and protected.
Any non-indigenous sites of cultural significance are identified and protected.

Proposed policies, guidelines and actions

• Conduct a cultural heritage assessment on the park in conjunction with appropriate Aboriginal people who have traditional links with the area. This information will be used when developing interpretive signage and other educational material.
• Enable QPWS staff and volunteers from the information centre to participate in cultural awareness programs at the Yugambeh Museum, Language and Cultural Centre.
• Investigate and encourage opportunities for Kombumerri people to be involved in park management including appointing a cultural heritage resource ranger to protect and interpret the area’s cultural values.
• Kalwun Corporation will continue to use space at the QPWS Information Centre, Burleigh Heads.

4.3 Recreation and tourism

Visitor use and safety

Current situation

Burleigh Head National Park is one of the most highly visited protected areas in the region. The park is used by international, regional and local visitors wanting to walk in a scenic and natural setting. The small size of the park and its isolation from other natural areas makes it particularly susceptible to environmental degradation caused by high visitation levels and inappropriate use which is often unsafe and in conflict with people engaging in more passive pursuits. Inappropriate use of the national park includes:
• local residents and visitors bringing dogs onto the park;
• vandalism and arson;
• off-track walking, especially to the beach and surf;
• assaults and offensive behaviour;
• littering;
• cycling on walking tracks;
• running on walking tracks; and
• removal or destruction of native plants.

A series of rockfalls forced the closure of the popular Ocean View track in Burleigh Head National Park from November 1997 to early 1999. Three rockfalls had resulted in large boulders falling onto the track, creating serious damage and threatening the safety of park visitors and staff. The geotechnical engineer engaged to assess the stability of Burleigh Headland has identified a direct correlation between rainfall events and the incidence of boulder falls. Based on information provided by the geotechnical engineer, QPWS will close sections of the Ocean View track that are at particular risk from rock and boulder falls during periods of wet weather. The track may therefore be closed when a high risk of boulder and rock falls is identified.

Desired outcomes

Visitors can enjoy safe, nature-based recreation without disturbing other visitors or compromising the conservation values of the park.

Proposed policies, guidelines and actions

• Develop a recreation strategy with Gold Coast City Council (GCCC) to incorporate nearby council reserves and other greenspace areas. Liaise with GCCC on the promotion and use of off-park recreation areas.
• Assess the current recreational opportunities at Burleigh Head by conducting visitor surveys to calculate visitor numbers, reasons for visiting and visitor attitudes.
• Monitor recreational impacts using photo-monitoring points at sensitive sites to measure impacts including erosion, trampling and littering.
• Liaise with park neighbours and local users regarding access, promotion and appropriate use of the park.
• Decrease levels of inappropriate park use such as the walking of dogs and cycling on tracks, through
combining community education with the issuing, by rangers, of on-the-spot fines.

- Minimise the probability of visitor injuries and assaults through updated safety signage, safety messages in brochures, verbal messages in the information centre and law enforcement.
- Maintain all structures and ground surfaces in a safe condition through regular park inspection in line with the regional risk assessment program.
- Monitor boulder movement and use these results to help determine appropriate periods of Ocean View track closure.
- Close section of the Ocean View track during wet weather periods and other identified high risk periods to minimise risk to visitors from rock and boulder falls.
- Upgrade Tumgun lookout and walking tracks.
- Increase the presence of QPWS staff on the park.
- Increase ranger patrols on the park where possible.
- Develop better directional road signage for the information centre.

**Interpretation and education**

**Current situation**

Existing public contact facilities include an information centre, a visitor information sheet with interpretive and educational material, directional signage and a Kombumerri Aboriginal park brochure. A brochure on the Ocean View track closure and associated boulder falls has recently been produced. All interpretive signage on the park and visitor information sheets need updating. There is currently a lack of information on-site about the park’s natural and cultural heritage values.

Various school groups and other educational institutions use the park to study its rainforest, native plants and animals, geology, and human impacts on the environment. Many of these school groups use the park without contacting QPWS staff.

**Desired outcomes**

Visitors increase their understanding and appreciation of the natural and cultural values of the park which results in more sympathetic use of natural areas.

**Proposed policies, guidelines and actions**

- An interpretive plan will be developed for the national park. This will include:
  - updating existing signage and developing new interpretive, directional and risk management signage. Interpretive signage would include information on cultural heritage and the area’s natural values as well as safety issues;
  - preparing interpretation of Aboriginal culture in conjunction with the Kombumerri people;
  - upgrading the Tumgun lookout area to include interpretative signage about the park and surrounds; and
  - improving directional signage to the information centre.
- Liaise with Education Queensland to ensure that schools notify park staff of their visits and are aware of national park regulations.
- Liaise with tertiary institutions to encourage studies in natural resource management and human impacts.
- Develop the volunteer network to assist in appropriate park activities.
- Appoint a QPWS staff member at the information centre to assist volunteers.
4.4 Complementary management of adjoining areas

Current situation

Burleigh Head National Park is an isolated natural area surrounded by urban development. The park has become increasingly isolated as residential development and roads have separated it from other natural areas and wildlife corridors.

Pressures from surrounding residential development include invasion of environmental weeds from suburban gardens and intrusion by domestic animals.

Desired outcomes

Surrounding land use buffers and complements the conservation values of the park.

Proposed policies, guidelines and actions

• Liaise with Gold Coast City Council regarding the management of Burleigh Head National Park, adjoining areas and nearby Council reserves.
• Initiate neighbour education on important park management issues including the impacts of environmental weeds, wildlife feeding, and domestic animals. Methods of public contact may include neighbour liaison, letterbox drops and information days.
• Prepare a recommended planting list of locally occurring native species for circulation to park neighbours and community groups.
• Investigate minimising aircraft flying directly over the park.

4.5 Plan implementation and monitoring

Current situation

The management plan will be implemented by Gold Coast Management Unit based on Burleigh Head National Park. The base consists of a house which has been converted into office space. A workshed has also been constructed on the site. Two staff at this base service twelve protected areas including Burleigh Head National Park. District staff based at Burleigh Head District Office will also be involved in the implementation of the plan with assistance provided by Southern Region staff as appropriate.

Park assets are managed according to the QPWS Asset Management Strategy.

Desired outcomes

The management plan is successfully implemented and desired outcomes achieved. The management unit is allocated enough resources to successfully implement the plan.
Proposed policies, guidelines and actions

• Develop an implementation schedule for the plan which considers available staff and resources and prioritises management actions. This will be reviewed annually and tie in with yearly budget allocations.
• Priorities for management at Burleigh Head National Park will include:
  • preparing and implementing a weed control program;
  • preparing and implementing a park interpretation plan;
  • implementing recommendations from the geotechnical consultancy report into rockfalls at the headland and associated track closures following adoption of acceptable risk criterion; and
  • investigating the brush turkey population and its impacts on the park’s natural vegetation.
• Set timeframes to enable monitoring of plan implementation and effectiveness of management strategies.
• Review the management plan within ten years of approval in accordance with s 125 of the Nature Conservation Act 1992.

5 References