



NSW **National Parks
and Wildlife Service**

BUDAWANGS WALKING AND CAMPING STRATEGY



Department of **Environment & Climate Change** NSW



BUDAWANGS WALKING AND CAMPING STRATEGY

**A strategy to manage the impacts of wilderness walking and camping in the
Northern Budawang Range, Morton National Park**

**NSW National Parks and Wildlife Service
Part of the Department of Environment and Climate Change**

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Adoption

This strategy was adopted by the Head, National Parks and Wildlife Service, on 18 April 2007. User requirements will be in force from 1 September 2007.

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The NPWS would particularly like to acknowledge the extensive contribution of Mr Bob Snedden to preparation of the strategy. His long bushwalking experience, detailed knowledge of the Budawangs and strong commitment to sustainable use were invaluable.

Cover photograph: Bob Snedden. Looking towards Pigeon House Mountain from Mount Elliott.

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PART A - BACKGROUND

1. INTRODUCTION

The area known as the 'Budawang's' is located in the southern part of Morton National Park, west of the town of Ulladulla and south of the Braidwood Road (see Location Map on page 2).

Most of the area lies within the declared Budawang Wilderness, which extends into the adjacent Budawang National Park. Wilderness declaration requires the area to be managed to protect its wilderness values, including its substantially unmodified state and provision of opportunities for solitude and self-reliant recreation.

The area consists of a series of plateaus and cliff-lined valleys with outstanding natural, cultural and scenic values. Vehicle access and visitor facilities are available around the edges, outside the declared wilderness, while a number of management trails and walking tracks lead through the wilderness area. There are numerous walking routes, camp sites and features of interest that attract walkers.

The Budawang's is one of the most popular walking areas in Australia because of its spectacular scenery, diverse and relatively easy walks and location close to Sydney, Canberra and other population centres. It is used by both day and overnight walkers, including small groups of individuals and larger club and school groups. Walker experience levels and environmental knowledge vary considerably.

High visitor numbers and concentrated use in some areas have resulted in track proliferation, vegetation loss, erosion, water quality deterioration and other unacceptable impacts, particularly in the more dramatic southern end of the Budawang's. The challenge is to manage these impacts and the area's values while continuing to provide opportunities for appropriate use and enjoyment.

The Walking and Camping Strategy is a requirement of the plan of management for Morton and Budawang National Parks. It was prepared in response to increasing concern about visitor impacts and recognition of the need to ensure that use is sustainable. The Strategy describes the Budawang's' conservation values, issues, use patterns, impacts, legislative background and management works undertaken. It sets out NPWS requirements for use of the area including limits on group size, cave camping and wood fires. The Strategy also describes management policies regarding track management, signage and camping areas and includes a number of actions related to education, environmental protection and monitoring.

It is expected that the measures set out in the Strategy will keep impacts to acceptable levels and that additional controls will not be needed in the foreseeable future. The Strategy will, however, be kept under review and updated as needed. Information about any changes to the Strategy will be provided on the national parks website www.nationalparks.nsw.gov.au.

Location Map

2. VALUES AND HISTORY

GEOLOGY AND LANDSCAPE

The main attraction of the Budawangs is its rugged grandeur and great natural beauty. It lies on the southern extremity of the Sydney Basin, on the Northern Budawang Range. Erosion of the sedimentary rocks of the Range has created a labyrinth of valleys between mesa-like plateaus. The plateaus are surrounded by cliffs and sometimes enclose high hanging valleys. There is a spectacular double terraced cliff line in the southern part of the area. The cliffs are often fissured, forming dramatic sculptured shapes (beehive weathering). Caves and overhangs are a common feature. Older metamorphosed rocks are exposed in the valley floors and in a few locations basalt flows cover the sediments.

The soils in many locations are shallow and highly erodable. A number of areas are poorly drained and vulnerable to damage by walkers.

PLANTS AND ANIMALS

The Budawangs has for many years been recognised for its wealth and diversity of environments. Many of the major vegetation structures are represented; rainforest, open forest, woodland, heath and sedgeland, often with abrupt changes caused by geology and soil conditions.

Significant plant communities occur on basalt areas, swampy parts of the Endrick/Corang River area, the mesa tops and cliff edges. Many of the plant species are threatened or rare or are endemic to the area ie they occur nowhere else but the Budawangs. These include the Pigeon House ash (*Eucalyptus triflora*) and *Budawangia gnidioides*.

A large number of threatened animal species also occur, including the broad-headed snake (*Hoplocephalus bungaroides*) which reaches its southern limit in the Budawangs and the ground parrot (*Pezoporus wallicus*), striated field wren (*Calamanthus fuliginosus*) and eastern bristlebird (*Dasyornis brachypterus*), which rely on heath and woodland margins.

ABORIGINAL USE

The Budawangs has a long history of human occupation. Aboriginal people ventured into the area at least 19,000 years ago, travelling between the coast and the hinterland and adapting their lifestyle to the diverse environments. Evidence of workplaces and campsites can be found along ridges, waterways and where the cliff lines form overhangs.

The traditional way of life was abruptly changed with the arrival of Europeans but there remains today a rich record of their former use of the area and its on-going value to Aboriginal people. This record includes artefact scatters and open camp sites, axe sharpening grooves, ceremonial sites, rock art and occupation deposits in rock shelters. The vast majority of the caves and overhangs in the Budawangs have

occupation deposits and there are an unknown number of artefact scatters and camp sites on relatively flat ground. Rock art is relatively common in the Budawangs and it is the most important location for rock art in the southern part of the state. Pigeon House Mountain (Didthul) is a dominant landmark and has a revered position in the spiritual values of local Aboriginal communities. Many types of Aboriginal sites and values are vulnerable to damage through recreation activities.

EUROPEAN EXPLORATION AND SETTLEMENT

Among the earliest Europeans to explore the area were Lt. Johnston and, separately, Hamilton Hume in 1821. Various explorers followed, acting under instruction from Surveyor General Mitchell. During the 1830s several expeditions searched for a road to link the Southern Tablelands to the coast at Jervis Bay, finally identifying a route along a traditional Aboriginal pathway that became known as the Wool Road, from Nerriga to Huskisson via Bullee Mountain and Sassafras.

The explorers' reports attracted settlement to Nerriga and Corang. By the late 1840s the route known today as the Wog Wog Trail along the Yadboro River was being used for stock movement. Routes into the upper Corang River area for grazing the swamps and woodlands had been identified and some travellers were accessing the Sassafras area via the Endrick Valley to avoid negotiating Bullee Mountain. Sassafras was used by graziers for winter relief or for stock en route to the coast.

Gold was discovered at Nerriga in the 1860s. Mining works and relics, including many miles of water races cut to mines from the Corang River and Endrick River, can be found throughout the western part of the area. Coal was discovered in the Clyde Gorge in 1883 but the seam was soon abandoned due to its uneconomic nature and access difficulty.

The discovery of gold resulted in an increase in farming and logging, and settlement moved onto poorer lands. By the early 1900s the forests of the basalt caps and valleys, such as The Vines in the upper Endrick Valley, had been discovered. Logging of these forests and later the upper Clyde River led to development of itinerant settlements. Roads and snigging trails were developed in the 1940s south of Sassafras to Newhaven Gap and the Vines. As the forests became exhausted, and with the land unsuited to farming, settlement declined and disturbed areas gradually revegetated. Evidence of former exploration, farming and logging activities includes old tree blazes, sawmill sites, a winch site and tracks.

In 1943 the Army began using the eastern part of the Budawangs for training, including artillery practice. This arrangement was formalised in 1959 and continued into the 1980s. Remains include target sites, observation posts and unknown amounts of unexploded ordnance.

EARLY MAPS AND BUSHWALKING

The search for farm lands and mineral deposits revealed the natural beauty of the Budawangs area. By the 1920s the area was attracting interest from the local community and from further afield. Community values were also changing, enlightened by an interest in natural areas for recreation.

Initially much of the recreational access into the Budawangs was via the old bridle trails and logging roads. Some maps prepared by early geographers and scientific parties provided localised information, along with sketch maps prepared by bushwalkers. After World War II there emerged a strong interest in recreational bushwalking and use began to significantly increase, particularly once more detailed maps became available.

In the mid 1960s a network of fire trails were constructed along the ridges south of The Castle, Byangee and Pigeon House Mountains, over Little Forest and Tianjara Plateaus and around the plains below Endrick and Round Mountains. The route of these was often guided by ease of access rather than a strategic plan for fire management. They have rarely been used for that purpose and some have been gradually revegetating. Today a number of the trails are maintained as public access roads or management trails and others form part of the network of bushwalking tracks.

Interest in bushwalking led to increasing recognition of the need to conserve natural areas and, through support from community groups such as the Budawang Committee, the Budawangs area was progressively added to Morton National Park over the period from 1970 to the present.

3. FACILITIES AND USE

Use of the Budawangs has evolved over time with changes to access and use patterns and development of facilities around the edges. Public vehicle access was formerly available closer to the central areas from Nerriga and Sassafras and to the south of Wog Wog but subsequent changes created a significantly larger remote area. New walking routes have been discovered and walked-in over time and others have disappeared because of infrequent use.

Further changes may result from upgrading of the road between Nowra and Braidwood, with potentially increased use of the Sassafras and Endrick entrances.

VEHICLE ACCESS AND ENTRANCE FACILITIES

Vehicle access is available to several camping and day use areas around the Budawangs which serve as entry points to the wilderness (see Tracks and Facilities Map, centre pages):

- Wog Wog and Long Gully - NPWS vehicle-based camping areas;
- Yadboro Flat - Forests NSW camping area;
- Sassafras – NPWS walk-in camping area (approximately 600m walk);
- Little Forest, Mount Bushwalker and Pigeon House - NPWS trackhead car parks.

Additional NPWS vehicle-based camping areas are located on the Link Road (on the Two Rivers Track) and at Blue Gum Flat. The Link Road camping area has no facilities.

Access to the car park for the Sassafras walk-in camping area is through private property to the park boundary. Visitors are asked to respect private property and to close gates along the road.

At the Endrick entrance (east of the town of Nerriga) there are Crown road reserves to the park boundary but the constructed road that leads to the Round Mountain /Endrick River Trail junction deviates from the road reserves and partly crosses private property. Walkers should therefore access the wilderness via the Alum or Red Ground Trails. The route to both trails is, or will shortly be, signposted.

WILDERNESS USE PATTERNS

The majority of overnight walkers enter from the four main entrances, Wog Wog, Long Gully, Sassafras and Endrick, the first three of which have camping facilities. The remainder enter from a number of other locations, primarily Mount Bushwalker, Little Forest and Yadboro Flat but also several other sites.

The area has a network of walking tracks and negotiable routes, and some management trails that are also used by walkers. The walking tracks are generally routes that have been walked-in due to heavy use, to the point where they are obvious footpads. The tracks have mainly bare earth surfaces and are usually associated with a well used entry point, an easy through-route or lead to a popular feature, destination or regularly used campsite. Some tracks may be of historic

interest. The negotiable routes receive less use than the tracks and generally show little or no sign of previous foot traffic. They are quite often associated with a lookout, a pass through a cliffline or a less popular destination and are subject to change.

Use is not spread evenly over the area but is concentrated around access points and the more spectacular scenery of the central and southern sections. Many features in these areas, and the tracks to them, are well known. The track between Wog Wog and Long Gully via Bibbenluke, and particularly the area around Monolith Valley/The Castle, is the most heavily used. The central area around Styles Plain is also well used. The less spectacular Endrick Area is relatively under-used even though it has attractive scenery and offers quite easy walking and a number of potential camp sites.

The remainder of the Budawangs receives significantly less use, apart from day use locations in the southeast at Pigeon House Mountain and Little Forest Plateau. Pigeon House Mountain is a well-known landmark and large numbers of people walk to the summit.

A major barrier to use is the former artillery training area in the northeastern part of the Budawangs where there are significant safety issues (see below).

The great majority of walkers keep to tracks that are promoted in guide books and maps, particularly the easy to find main routes. Few venture away from these areas. This has both advantages and disadvantages since it concentrates and increases impacts in well-known locations but also leaves areas that are relatively untouched and that provide opportunities for exploration.

Pack camping occurs at many locations throughout the Budawangs but particularly at a number of well-known level tent sites and rock overhangs near water sources. Several of the camp sites are quite large and obvious but most are used only by small numbers of walkers.

The main tracks, destinations and camp sites are listed in Tables 1 and 2.

Table 1 Main tracks used by walkers

Track name	Track route	Comment
Wog Wog to Bibbenluke	Wog Wog entry to Bibbenluke via Corang Peak	Also called Scenic Rim Trail or Wog Wog Track
Bibbenluke to Castle Saddle	Bibbenluke to Castle saddle via Monolith Valley and Nibelung Pass	Also called Monolith Valley Track
Castle Saddle	Long Gully entry to Castle Saddle	Also called Kalianna Ridge Track. Combines with first 2 tracks to form major route between Wog Wog and Long Gully
Cooyoyo Creek	Castle Saddle to Cooyoyo Creek Camp	Spur track to camping area
Endrick River	Sassafras entrance to Round Mountain Trail	Management trail, formerly known as Newhaven Gap Trail
Folly Point	Endrick River Trail to Folly Point	Spur track
Vines to Bibbenluke	The Vines to Bibbenluke via Styles Plain	Also called Vines, Styles Plain

	and Mt Tarn	or Mt Tarn Track
Hidden Valley	From 'Vines to Bibbenluke' track to Hidden Valley	Spur track
Corang Peak	Deviation over peak from 'Wog Wog to Bibbenluke' track	Parallel to main trail
Corang Lagoon	From 'Wog Wog to Bibbenluke' track to lagoon	Part of track is on private property
Red Ground	Endrick entrance to Endrick River Trail	Management trail
Round Mountain	Endrick Trail to Square Top Mountain Trail	Management trail
Sallee Creek	From 'Vines to Bibbenluke' track to Square Top Mt/Round Mt Trail	Old logging trail
Tunnel	Castle Saddle to Castle	Spur track
Wog Wog-Cockpit Swamp-Long Gully	Wog Wog entrance to Long Gully via Yadboro River	Also called Wog Wog Track
Mount Bushwalker	Tianjara Trail to Mt Bushwalker	Formal, signposted track
Pigeon House	Pigeon House car park to mountain summit	Formal, signposted track
Little Forest	Short track from Little Forest car park	Formal, signposted track
Rusden Head	Little Forest to Rusden Head	Management trail beyond Little Forest track
Two Rivers (Stage 5)	Tianjara to Pigeon House Mountain	Combination of vehicle trails and walking tracks, including 12 Mile, Tianjara, Rusden Head, Wombat Ridge
Florance Head	Little Forest Trig to Florance Head	Management trail
Pigeon House North	Wombat Ridge FT to Yadboro Rd via Longfella Pass	Management trail

There are also several other routes that receive less regular but still significant use such as Talaterang Mountain, Mount Owen, Harper Head and Jailhouse Pass.

Table 2 Main destinations and walk-in camp sites

Destinations	Main tent camp sites	Main camping caves
Monolith Valley	Cooyoyo Creek	Burrumbeet Brook group
Castle	Styles Creek/Styles Plain	Bibbenluke Mountain
Mount Owen	Canowie Brook	Mount Cole group
Pigeon House	Burrumbeet Brook	Mount Haughton group
Talaterang Mountain	Bibbenluke	Corang Peak group
Little Forest Plateau		Foster Mountain
Styles Plain	Regularly used camp sites	Camp Rock
Burrumbeet Brook	Piercys Clearing	Mount Tarn group
Corang Peak	Folly Point	Styles
Quiltys Mountain	Strang Creek (Tanderra)	Castle Saddle Track
Byangee Walls	Upper Corang	Mt Owen
Hollands Gorge	Sally Creek	Cooyoyo Creek
Mount Cole	Hollands Gorge	
Mount Tarn	Sluice Box Falls	
Hidden Valley	Camping Rock Creek	
Folly Point		

Note: An area on private land at Corang Lagoon is also used for walk-in camping.

DAY WALKS

The Budawangs is primarily an area for extended pack walks but there are some popular day walking tracks around the edges that pre-dated wilderness declaration. Pigeon House Mountain is a high profile day walk while walks to Mount Bushwalker, Rusden Head and Florance Head are also popular because of their easy access, level topography and excellent views. Each of these tracks begins outside the declared wilderness.

Corang Peak, Monolith Valley, the Castle and Byangee Walls are visited by day walkers, although these are very demanding walks. Day walkers also visit a number of locations on the eastern side of the Budawangs such as Gadara Point and Talaterang Mountain via unformed routes.

There are a number of attractive walking tracks in nearby areas that provide for day visitors, including George Boyd Lookout, Granite Falls and several walks in Conjola National Park, Narrawallee Creek Nature Reserve, Meroo National Park and further afield. Because this range of opportunities is available there is no need for the Budawangs to have a focus on day walking, although existing tracks will be retained.

WALKER NUMBERS

The majority of walkers are in groups of friends or on organised club walks. These walkers are generally adults and have a range of walking experience from minimal to extensive. Many are repeat visitors. School and youth groups also make up a significant proportion of walkers, primarily using the Wog Wog to Long Gully route.

Group size varies from a few to 20 or more walkers. Club and school groups are the largest, particularly for organised day walks.

Based on vehicle counts in perimeter parking areas, visitation is estimated at up to 15,000 person days per year in the central sections of the Budawangs. A further 20,000 people walk to Pigeon House Mountain each year. Walker numbers, both day and overnight, have risen over the last 20 years and are continuing to increase steadily.

The number of walkers present on any one day during peak holiday weekends is estimated at up to 420 people within the wilderness area (excluding walkers to Pigeon House Mountain). This is thought to consist of approximately 360 walkers along the main routes and a further 60 in more remote areas. A further 400 people climb Pigeon House Mountain on a peak day and 200 visit the Little Forest Plateau area. These high numbers occur only occasionally, as the number of walkers is strongly affected by weather. Outside peak periods numbers vary greatly but are significantly lower.

Patterns appear to have changed in recent years, with more people doing day walks rather than camping overnight, and increased mid-week use by school groups.

4. IMPACTS AND ISSUES

ENVIRONMENTAL IMPACTS

Because of the sensitive environments of the Budawangs, walking and camping are resulting in significant impacts at popular locations. Environmental impacts include:

- Erosion of walking tracks, with accompanying changes in natural drainage patterns;
- Track braiding in poorly drained areas;
- Creation of new tracks to view points and scenic spots;
- Trampling or walking-in of negotiable routes until they become obvious tracks;
- Vegetation trampling in camping areas, followed by soil compaction and erosion;
- Tree dieback from soil compaction and exposure of tree roots through erosion;
- Expansion of camping areas and creation of new satellite camping spots;
- Reduction in populations of the rare plant *Budawangia gnidioides* by camping in overhangs, cutting for bedding and the affects of camp fires;
- Extensive removal of dead timber around camp sites, with consequent loss of habitat and damage to soils and live vegetation from trampling;
- Vegetation loss through the practice of cutting live timber and leaving it to dry for later use and the breaking out of the dead stems of mallee plants for firewood or tent poles, leading to lignotuber damage and death of the tree;
- Damage to plants through their use as anchor points for descending and climbing;
- Water quality deterioration from washing and toilet waste;
- Aesthetic impacts from vegetation loss, erosion, fire places, numerous cairns and other track markers and toilet waste;
- Damage to cultural features through cave camping and campfires, and collection of rock for building cairns;
- Vegetation thinning in front of caves as a result of firewood collection and trampling, with subsequent exposure and drying of cave deposits;
- Inadequate disposal of excrement and toilet paper in shallow soils in the vicinity of camp sites and overhangs used for camping.

Rising walker numbers are resulting in increased extent and severity of impacts. This situation is unsustainable both for protection of the very significant conservation values of the Budawangs and for maintenance of a wilderness experience.

Walkers concentrate along routes where the most impressive scenery can be accessed and where tracks have formed largely as a result of promotion in books and maps. It is these places that are bearing the brunt of the heaviest use and damage. Impacts are particularly high in and around the popular camping caves and the tent camping areas at Cooyoyo Creek, Bibbenluke, Canowie, Burrambeet, Styles Plains and also Corang Lagoon, which is on private property. It is these locations that are of most concern and where ameliorative measures are most urgently needed. Management of use is needed over a wide area, however, to address issues such as track creation, erosion, wildlife and cultural site disturbance and vegetation damage.

Past camping in Monolith Valley, the Castle Saddle and Hidden Valley had severe impacts in these restricted and sensitive locations. Other areas are also not appropriate for camping, such as the Vines rainforest area which is recovering from past logging and fires.

As stated in sections 2, the Budawang's caves and overhangs have a very important concentration of Aboriginal occupation deposits and art. The vast majority of the caves appear to have occupation deposits and a significant proportion have art. Cave camping has the following impacts:

- trampling causes churning up of sandy deposits and compaction of clayey deposits, with consequent burial, uncovering or breakage of artefacts.
- camp fires result in changes to the chemical nature of the deposit, addition of modern charcoal and consequently false radio carbon dates, and flaking of art through drying of the cave atmosphere. Loss of adjacent vegetation by fires, firewood collection and trampling also causes drying out and hence damage.
- Some walkers persist in digging to create level sleeping platforms and leave rubbish in caves. Archaeological digs have found such rubbish to have worked its way into the whole deposit profile.

SOCIAL IMPACTS

High visitor numbers can have social impacts, by reducing opportunities for isolation and the sense of being in wilderness. This is primarily the case during peak use periods and at the most popular camp sites. The presence of large groups has a particularly high impact on wilderness experience as well as having higher environmental impacts.

There have been a number of complaints about school and youth groups because of their noise levels and exuberant behaviour, although such groups are usually present on week days when there are fewer adult walkers.

SAFETY ISSUES

Most of the Budawang's is wilderness and therefore few track markers or safety aids are provided. Many track sections are not easy to follow even though they are marked on maps. The walks require experience, fitness, navigational skills and appropriate equipment. Because of the area's easy accessibility and high profile, however, it attracts significant numbers of inexperienced walkers. A proportion of these have difficulty navigating and may become lost, necessitating expensive search and rescue operations. On average authorities are notified of injured or overdue walkers four times per year and a major rescue occurs every two years.

The eastern part of the Budawang's, including Clyde Gorge and the Tianjara Plateau, was formerly used for military training (see Section 6). The northern section of the training area was a practice range for the firing of live artillery shells. Unexploded ordnance (UXO) occurs throughout most of the northern section and there is a potential safety risk on all but a few well used tracks. Based on advice from the Department of Defence, NPWS requires that walkers follow only existing tracks in this area and only camp in designated areas. Walking off tracks, camping outside the designated areas and development of new walks in the impact area is prohibited.

Unfortunately a small number of walkers ignore the risks and pioneer new routes through the area. It is important that visitors understand the safety risks of walking in areas containing possible unexploded ordnance. Warning signs are provided at entrances to the former training area.

ENTRANCES AND FACILITIES

User groups have raised concerns about the uncertain public vehicle access at the Sassafras and Endrick entrances and asked that NPWS secure this. Access to the Sassafras entrance is across private property and provision of legal access would probably require land acquisition. For this reason a definite commitment to secure access cannot be made.

As stated in section 3, there is legal walking access to the park along Crown road reserves at the Endrick Entrance and the route to the Red Ground Trail will shortly be marked. Alternate marked access is available across a short stretch of private property to the Alum Trail. Recent bequests have enabled the acquisition of former private land at the junction of the Round Mountain and Endrick River Trails, ensuring walker access in this area.

Users have made a number of suggestions with regard to improvement of facilities at entry points, track clearing and erosion control and placement of aids for walkers within the wilderness such as rails, ladders and wire mesh on slippery logs. Works designed to improve environmental sustainability are appropriate and may be implemented where needed.

INFORMATION PROVISION

The Budawangs have been heavily promoted by a series of published maps and walking guides and these have to a large extent determined the development of walking tracks and camp sites. While they are a valuable resource for walkers, NPWS does not have control over the information in these publications.

Education about the nature of wilderness and minimal impact bushwalking techniques, and provision of information about walking restrictions and guidelines are critical for ongoing use to be sustainable.

5. AIM AND OBJECTIVES

The overall aim of the Strategy is to ***ensure that visitor use of the Budawangs is environmentally sustainable and does not cause significant damage to the area's natural and cultural values, while providing for quality wilderness walking experiences.*** Two groups of objectives come under this aim, as set out below.

- **Minimise the environmental impact of walkers:**
 - arrest further damage to Aboriginal cultural heritage;
 - minimise disturbance to sites that contain rare and threatened plant or animal species, particularly *Budawangia gnidioides*, *Eucalyptus triflora* (Pigeon House ash) and *E. gregsoniana* (Wolgan snow gum);
 - minimise further track erosion and damage in poorly drained locations;
 - minimise water pollution;
 - reduce visual scarring associated with heavily impacted camp sites and tracks;
 - avoid further expansion of camping areas;
 - minimise the area affected by tracks and human impacts and therefore protect natural and cultural values. In particular, retain the relatively undisturbed nature of the north western area.

- **Provide high quality walking and wilderness recreation opportunities:**
 - provide opportunities for quiet and solitude and for self-reliance and discovery in areas that are substantially unmodified;
 - ensure continued opportunities for walks varying from overnight to several days;
 - provide opportunities for day trips on the fringes;
 - ensure that numbers of walkers and the visible impacts of walking do not significantly affect wilderness experience;
 - reduce the incidence of walkers becoming lost, and the consequent risk to walkers and cost of rescue operations;
 - manage for walker safety in the former military training area;
 - promote walker understanding and appreciation of the value of wilderness and the natural and cultural heritage of the Budawangs area.

6. PLANNING FRAMEWORK

WILDERNESS DECLARATION

Most of the Budawangs is part of the Budawang Wilderness, declared on 12 April 1996. The *Wilderness Act 1987* allows land to be identified as wilderness if:

- the area is, together with its plant and animal communities, in a state that has not been substantially modified by humans and their works or is capable of being restored to such a state;
- the area is of sufficient size to make its maintenance in such a state feasible; and
- the area is capable of providing opportunities for solitude and appropriate self-reliant recreation.

Views vary widely about what constitutes wilderness but generally it is considered to be a spacious area where the visitor has a sense of naturalness, isolation and remoteness from urban development. Wilderness areas have high environmental quality; clean air and water, all the organisms, features, processes and associations that should be present in a truly natural system, and an absence of the sounds, smells and sights of urbanised communities. They also have only minimal intrusion of visitor and management facilities and controls and low levels of interact with other people. Wilderness provides opportunities for self-reliance, adventure, challenge and exploration; precious commodities in a widely modified and tamed world.

The Wilderness Act requires wilderness to be managed to restore (if applicable) and protect the unmodified state of the area and its plant and animal communities, and to preserve the capacity of the area to evolve in the absence of significant human interference. A literal interpretation of these principles would seem to preclude all human use, but speeches and writings from the 1980s indicate that wilderness was thought of as areas where development and activities such as logging, grazing, mining and vehicle access were excluded. Wilderness is also required under the Act to be managed to permit opportunities for solitude and appropriate self-reliant recreation, and recreation activities necessarily create tracks and campsites.

Most people think that low key walking tracks and small campsites are appropriate in wilderness and surveys have shown that the great majority of visitors think that the Budawangs area is wilderness. Parts of the area were logged or grazed in the past but have substantially recovered. The Budawangs is, however, at the more modified end of the wilderness spectrum and in areas where use is concentrated wilderness values are likely to be reduced for many visitors. Along popular routes and in good camping locations near water, the effects of use are very visible and significant numbers of people may be present at peak periods. The widespread evidence of disturbance makes it essential that the Budawangs be managed both to avoid further damage and to reduce existing use pressures in the popular areas.

The need to retain wilderness in a substantially unmodified state and to provide opportunities for solitude and self-reliant recreation, directs the management approaches that can be applied to minimise impacts. Measures used must retain the natural appearance of the area and avoid substantial hardening or facility construction. Track formalisation and signposting are also generally not appropriate

unless essential for environmental protection, because of the emphasis on self-sufficiency.

NPWS manages wilderness in accordance with its Wilderness Policy. Relevant clauses are:

- Where possible, wilderness areas will be maintained free from signs, trail markers and other management devices.
- The environmental impact of wilderness recreation will be minimised by encouraging minimal impact bushwalking practices, which include hygienic and ecologically sound waste disposal practices, the use of portable stoves and discouraging the clearing of campsites.
- Access may be temporarily restricted to the whole or part of a wilderness area if use is causing environmental impact in conflict with the preservation of ecological integrity or other wilderness values.
- Public understanding of the values of wilderness and the basis for wilderness management will be promoted.

Commercial use of wilderness is not permissible under the National Parks and Wildlife Act.

PLAN OF MANAGEMENT

The Plan of Management for Morton and Budawang National Parks aims to prevent further deterioration of wilderness values and to restore those values where they have been degraded. The plan recognises, however, that the Budawangs will continue to be a popular walking area. It concentrates on minimising the impacts of use through controls on the nature of use and some on-the-ground works.

The plan of management places the following controls on use of the Budawangs:

- *Camping is not permitted in caves and rock overhangs, except for those that do not have significant natural or cultural values and have been designated for camping (the plan provided that the Walking and Camping Strategy would designate camping caves).*
- *Camping is not permitted in Monolith Valley, the Castle Saddle, Hidden Valley, The Vines rainforest or along the Two Rivers Track within designated wilderness. Camping may be prohibited in other locations on either a temporary or permanent basis where vegetation destruction and other impacts are occurring.*
- *Wood fires are not permitted in Monolith Valley, the Castle Saddle, Hidden Valley, The Vines or along the Two Rivers Track within designated wilderness. Wood fires may be banned in other locations if significant impacts from wood use occur.*
- *Placement of cairns and other track markers by the public is not permitted.*

The plan also allows the introduction of measures such as group size limits or a permit system to limit total numbers if needed to control environmental impact.

The plan generally allows walk-in camping throughout the park so long as it is more than 500m from public access roads and from vehicle-based camping and day use areas (and not in the above specifically excluded areas).

Vehicle-based camping is permitted only in designated camping areas. Those relevant to the Budawang within Morton and Budawang National Parks are the Wog Wog, Long Gully, Link Road and Blue Gum Flat camping areas.

FORMER MILITARY TRAINING AREA

As stated in section 4, much of the eastern part of the Budawangs (mainly the Tianjara Plateau and Clyde Gorge) was used for military training from 1943 until the 1980s (see Tracks and Facilities Map). The northern half of the training area (roughly north of Mount Bushwalker) was used as a live artillery range. Kangaroo Hill and Mount Tianjara were main targets but the area used also extends east of Kangaroo Hill and west of the Clyde Gorge to Middle Creek. This resulted in a scattering of ordnance remains over the area that may include high explosive artillery shells of various calibres, mortar rounds and grenades. An unknown amount of this ordnance did not detonate when fired, or was left behind without firing, and is known as unexploded ordnance (UXO). The risk of UXO exploding has not decreased with time and can in fact increase as ordnance age. Specialist advice indicates that checking and clearance of UXO from the park is impossible other than for very small areas such as camp sites.

The Department of Defence has advised that activities such as vehicle use, digging, campfires, driving in tent pegs and to a lesser extent bushwalking have the potential to cause UXO to detonate. The Department has recommended that access in the artillery impact area be restricted to existing formed roads and walking tracks and this has been confirmed by legal advice. Well-used camping areas are likely to be safe but there is always a risk when moving outside existing clearings. There are three recognised camping areas within the impact area – Link Road, Sassafras and Strang Creek. The Link Road camping area, which was close to the main target area, has been checked for UXO and the boundaries delineated. It is considered safe to a depth of 1m. The Sassafras camping area was near the edge of the impact area and is considered safe, but new fire places will not be permitted as a precaution. The Strang Creek camping area is near the impact area boundary and there is an alternate camp site 1.2km away at Camp rock. It is considered preferable to close Strang Creek to camping rather than formalising it.

The southern part of the Training Area (south of Mount Bushwalker) was used primarily for manoeuvres involving blank rifle fire. A small number of blank shells have been found in this area, which could be dangerous if hit hard or burnt. It is possible that other unexploded training simulators or ordnance are present and, although it would appear that the risk is low, the Department of Defence has advised that no guarantee of safety can be given. Through a risk assessment process it has been determined that existing tracks and routes and existing camp sites within this area can be used safely.

AUSTRALIAN STANDARD FOR WALKING TRACKS

Some roads on the eastern side of the Budawangs are used for walking as part of the long distance Two Rivers Track and some of the main walking routes within the

wilderness are management trails maintained for NPWS management access such as fire and pest control. Most other walking is on a variety of walking tracks.

Standards Australia has produced AS 2156, a guide to walking track classification and construction. It sets out a range of classifications based on track characteristics and the skill of intended users and suggests associated track design and management considerations. The classes range from broad, hardened surfaces suitable for wheelchair use (Class 1) to routes with no modification to natural surfaces (Class 6). The characteristics of the classes are set out in Appendix 1.

Walking tracks in the Budawangs have been classified as:

- Class 4: defined walking tracks with some surface modification but also steep sections and rough surfaces;
- Class 5: well used but in places indistinct walking tracks which may include occasional modified surfaces as well as steep, loose or exposed sections; and
- Class 6: the rest. Many of the 'tracks' in the Budawangs fall into this group and are generally known as negotiable routes. They generally show no surface modification, may be quite indistinct and are subject to change as vegetation regenerates or walkers find new routes.

Roads, management trails and Class 4 and 5 walking tracks are shown on the Tracks and Facilities Map and in the table below. Class 6 routes have not been mapped because of their ephemeral nature and the need to prevent significant use and preserve wilderness experience.

Table 3 Track Classes

Roads	Management Trails	Class 4 walking tracks	Class 5 walking tracks
Twelve Mile	Wombat Ridge	Pigeon House	Wog Wog to Bibbenluke
Link	Florance Head	Mt Bushwalker	Vines to Bibbenluke
Tianjara	Rusden Head	Little Forest	Castle Saddle to Bibbenluke
	Pigeon House North		Folly Point
	Square Top Mountain		Coyoyo Creek
	Alum Creek		Hidden Valley
	Round Mountain		Pigeon House North
	Sheep Station Creek		Corang Lagoon
	Endrick River		Corang Peak
	Red Ground		Sallee Creek
	Jindelara (not maintained but may be opened for fire suppression)		Castle Saddle
			Tunnel

WILDFIRES AND PRESCRIBED BURNS

The Budawangs area, like any other part of the Australian bush, is subject to periodic wildfires. The area may also have prescribed burns applied for ecological reasons such as when vegetation communities or species are threatened by a long absence of fire, or hazard reduction burning may be undertaken for asset protection.

Fire changes vegetation density and can expose soils to erosion, thus affecting use patterns and management needs. Reduction in dense or prickly vegetation could for example result in walkers finding new routes, rediscovering old routes, taking short cuts off tracks or choosing new areas for camping. Such changes may be acceptable but in some cases there may be a need for environmental and safety reasons to reinforce accepted routes, set limits to camping areas or temporarily close areas to encourage regeneration following fire. Fires may also create management opportunities, such as re-alignment of poorly located tracks.

7. WORKS UNDERTAKEN

Because of the extent and cumulative nature of environmental impacts in the Budawangs it would be unacceptable to not respond to them. A range of management works have been undertaken (both within and outside the wilderness area) to address vegetation damage, erosion and other track impacts, encourage minimal impact use and improve amenity at entrance camping areas.

EXISTING AREA CLOSURES AND USE REGULATIONS

As stated in section 6, the plan of management for Morton and Budawang National Parks prohibits camping and wood fires in Monolith Valley, the Castle Saddle, Hidden Valley, the Vines rainforest and along the Two Rivers Track within designated wilderness. These restrictions applied from adoption of the plan in September 2000 but camping had previously been restricted in Monolith Valley by signage for several years.

ENTRANCE CAMPING AND DAY USE FACILITIES

Vehicle-based camping and day use facilities at the Long Gully entrance have been upgraded and some re-design of the Wog Wog area is planned to improve its function.

A walk-in camping area with a toilet has been constructed 600m south of the Sassafras car park to provide an overnight area for walkers entering through this location.

Other works will be undertaken as needed, such as expansion of the Mount Bushwalker car park.

SIGNAGE

Signposting has been erected at major entry points into the Budawangs advising visitors about wilderness values, the danger of UXOs, minimal impact bushwalking techniques, and sites where camping and wood fires are prohibited. The signs will be updated to accord with this Strategy.

Signs are generally not appropriate within wilderness areas and therefore signage has been used sparingly for specific management and environmental reasons. For example, signs prohibit camping and fires at the Castle saddle, direct walkers to the Cooyoyo Creek camping area and indicate each end of Monolith Valley.

Signs have been used occasionally to reduce track proliferation. A significant number of tracks in the Budawangs are false leads; tracks that go to no specific point and serve no purpose. They emanate from unmarked intersections and often cause unnecessary vegetation destruction and erosion as walkers start out along them and retrace their way back to the intersection after realising their mistake. This increases usage to the point where these tracks often look like the main track. Where intersections split into a number of tracks a directional sign showing the real or

correct track can often stop the use of the false lead. Another advantage of such signs is the reduction in lost walkers, leading to fewer search and rescue operations. This is not the main purpose of the signs, however, and walkers are warned at the main entry points of the difficulties of navigating in wilderness and the need for self reliance.

Additional low key signs are being considered to explain management restrictions and remind walkers of their responsibilities in wilderness areas. Any signs will be used at limited locations to achieve improvements in environmental condition and will be removed when no longer needed.

TRACK WORKS

Track maintenance work to address poorly drained, braided and eroded track sections has been undertaken at a number of locations on the main tracks, sometimes with the assistance of walking clubs. While it would be desirable to restore natural surfaces along tracks, this is not usually feasible because of ground conditions and ongoing use. Work undertaken includes erosion control/water diversion, stepping logs, board walks, vegetation trimming, signposting and track delineation.

Cross drain/steps: These consist of timber sleepers placed at an angle to direct water off the side of tracks that are gullyng out. The sleepers also act as steps and take the impact of walkers boots, which has the effect of lessening erosion. Running water off the track is essential even if the track is to be closed, in order to stop the process of water scouring out the surface.

Low level boardwalk: This method is used in boggy, wet or soft areas where walkers tend to walk off the muddy sections and form multiple tracks. A basic timber construction consisting of two parallel planks supported on short braces is used to give walkers a firm base to walk along. Although the boardwalks are a constructed feature in wilderness, the effect they have on reducing the environmental impact of walkers is dramatic. In areas where boardwalks have been installed vegetation regrowth is rapid and areas scarred by erosion and vegetation loss are quickly covered.

Stepping log sections: These consist of hardwood log sections submerged on end, providing a line of round timber pads to step on. They are generally used in short wet or muddy sections and take the impact of walker's boots, thus lessening erosion.

Track closure and relocation: Track closures are occasionally carried out where an existing section of track traverses a wet, boggy or soft area and a more suitable alternative track location exists.

Track delineation: In some locations tracks have been discreetly marked to avoid track proliferation or confusion. This keeps walkers on the correct route and stops damage to nearby areas and the creation of new tracks.

Vegetation pruning: Minor vegetation pruning is sometimes used on overgrown sections of track, where walkers are forming multiple tracks. It is particularly used

where vegetation regrowth over trackworks is causing walkers to avoid crossdrain/steps or boardwalks, leading to more erosion beside existing works.

Steep track aids: At Nibelung Pass and the top of Kalianna Ridge chains have been attached on steep and slippery sections. The Nibelung Pass chain avoids the need for walkers to enter a nearby creek bed to find an alternative route and has reduced vegetation damage and erosion in the creek. The Kalianna Ridge chain allows walkers to bypass a slippery eroded section.

Major structures: Parts of the Pigeon House Mountain and Mount Bushwalker tracks have hardened surfaces, raised steel walkways, ladders and safety fencing. These tracks were popular and heavily promoted prior to declaration of the wilderness area and the plan of management provides for their continued promotion as day use destinations. Maintenance of their high standard is necessary for environmental protection and public safety reasons.

EFFECTIVENESS OF WORKS

Closure of Monolith Valley to camping has resulted in good vegetation regrowth and repair of bare areas. Closure of Hidden Valley, even though it has only been for a few years, has already resulted in noticeable recovery of the former camping areas. The Castle Saddle is likely to take longer to recover because of its shallow soils and location at the top of a steep slope on a major entry track.

The spread of minimal impact messages through entrance signs and other means has resulted in smaller party sizes, more walkers using fuel stoves and less cutting of live vegetation and is likely to have reduced water pollution. A proportion of walkers, however, have not embraced the minimal impact message and the total benefits have been minor compared to the impacts of the large numbers of walkers using the Budawang.

The track works have significantly reduced track erosion and vegetation trampling in a number of areas. More work remains to be done in problem locations and it is likely that there will be an on-going need for minor works and maintenance.

There are still major concerns about track proliferation, the progressive expansion of popular tent camping areas, creation of new camp sites and the effects of camping in overhangs. Given that walker numbers are continuing to increase, further methods to reduce impacts are needed.

MONITORING

Vehicle counters are in place at a number of sites including the Pigeon House car park, the Tianjara Trail and Pointer Gap Road. These indicate the number of people walking to Pigeon House Mountain, visiting the Little Forest Plateau Area and using the 4WD Tianjara Trail.

A pedestrian counter is located on the Castle Saddle track, the most heavily used entrance track to the Budawang.

Counts are recorded of parked cars at the entrances from time to time and there is occasional aerial surveying of tent numbers.

There have been several user surveys that have provided information about use patterns and attitudes to management options.

Walking track condition is visually observed by staff and visitors and used to program track works.

Water quality testing has been undertaken downstream from some popular camping areas.

8. MANAGEMENT TOOLS

There are a number of management options available for minimising remote area walking and camping impacts including education, restrictions on activities, area closures, works to mitigate impacts and a permit system. These tools have been used in sensitive walking areas in Australia and overseas and some, such as use of fuel stoves and limits on party sizes, are widely promoted in minimal impact literature.

The available options and the advantages and disadvantages of each are set out in Appendix 2. A number of options carry capital costs and require adequate resources to implement. All options need to have walker support and cooperation and must be able to be communicated and enforced. Each of the options has the potential to reduce visitor impacts but none are sufficient on their own. A combination of methods will be needed.

As discussed in sections 6 and 7, some use controls are already required by the plan of management and extensive erosion control work has been undertaken on tracks.

TRACK MANAGEMENT

Track works to minimise braiding and erosion will continue to be necessary on the major walking routes but it will be important to avoid formalising additional tracks, with consequent environmental impacts and reduction in wilderness values. For this reason, no work will be undertaken on Class 6 routes unless essential to address environmental damage. The aim should be to avoid the 'walking-in' of Class 6 routes to become Class 5 tracks, through limits on walker numbers and track promotion, and voluntary avoidance of tracks that are becoming walked-in.

CAMPING AREA MANAGEMENT

The primary need in the Budawangs is for reduction of impacts in popular camping areas and the halting of their expansion. Closure of sensitive areas such as Monolith Valley and Hidden Valley to camping has proved effective and led to significant recovery. Temporary closure of other areas could be considered if necessary but it would not be practical to close all the damaged camping areas. There are a limited number of sites along the main tracks that are suitable for camping, where flat land and water are available. Site resting/rotation has been proposed but is rarely successful as it takes far longer for areas to recover than to be damaged.

Methods for reducing camping impacts include number limits, installation of toilets and bans on wood collection. Absolute limits on tent numbers would be impractical as it is recognised that groups that arrive late or in poor weather may not be able to move on to other sites. A size guide would be useful as an aim, however, and a measure against which the success of the Strategy can be monitored.

A booking system has been proposed for popular camping areas but this would require significant management resources and be difficult to enforce. It would also not be appropriate to create alternative camp sites combined with advisory signs for

when the popular areas are full, because of the environmental impacts and effects on wilderness values.

Identification of additional fuel-stove-only areas is vital in heavily used locations. A complete prohibition on wood fires throughout the Budawangns was considered because of the potential for confusion resulting from selective bans and the benefit that a wide ban could bring in reducing bushfire risk. Selective bans will be trialed first, however, and walkers encouraged to use fuel stoves throughout the Budawangns. If changed use patterns result in significant impacts in new areas, a complete ban will be required.

Installation of camping platforms can deal with soil compaction issues but would add to management costs and reduce wilderness experience. Camping platforms are not considered appropriate in the Budawangns. Provision of toilets is considered below.

WATER QUALITY PROTECTION

Water quality monitoring has shown raised faecal coliform levels downstream from camping areas and therefore the potential for risks to health. The extent of pollution from human waste at camp sites depends on soil depth, terrain, distance from watercourses and visitor numbers. Options for managing human waste include:

- education about minimal impact practices;
- restricting camp locations and camper numbers;
- encouraging visitors to carry out waste; and
- provision of toilets.

Adoption of minimal impact camping practices by walkers has been only partial and appears to have had limited success in minimising human waste impacts in popular locations, especially where soils are shallow such as close to some overhangs. Appropriate disposal methods should continue to be promoted, however, and these could be extended to encouraging the carrying out of waste from areas where it cannot be successfully buried.

In the heavily used main camping areas burial, even if to adequate depths, has significant impacts. The plan of management states that:

- *Toilets of minimal construction will be provided where necessary to protect water quality at popular camping spots in the 'Budawangns', possibly including Cooyoyo Creek, Bibbenluke, Burrumbeet Brook and Styles Plain, depending upon the results of the camping and walking track rationalisation strategy and environmental impact assessment. Their success in reducing environmental impact will be monitored.*

While it is recognised that toilets will reduce wilderness experience, they are considered preferable to continued environmental impacts or severe limits on numbers. Sensitive design and location will reduce their visual intrusion. Toilets may attract more campers to those locations where they are provided but this can be countered by guidelines on maximum tent numbers and a permit system if necessary.

A number of toilet designs have been considered and the most appropriate appears to be an enclosed system that is flown out when full. Pit toilets would require suitable soils and require machinery to construct while composting toilets would require regular maintenance. The proposed toilet design will enable them to be removed if conditions change and they are no longer required.

CAVE CAMPING

Controlling cave camping is one of the most debated issues in the Budawangs as many walkers value the experience of cave camping and being able to walk in the area without carrying tents. The cultural heritage value of the majority of the caves is very high and must be protected. It is likely that the popular camping caves, however, have been so damaged that they may have lost their archaeological and cultural values and camping could continue to be permitted in them. Based on observations, there are deposits of up to 1m depth in well-shaped remote caves but the deposits in popular caves have been significantly eroded.

Occasional use of more remote caves would be acceptable if all walkers behaved appropriately, with no digging, rubbish or fires. Unfortunately there have been instances of serious damage from a single use to important remote caves in the Budawangs within the last 10 years. Education is only partially successful as a solution.

WALKER NUMBERS AND GROUP SIZE

The most feasible way to achieve a reduction in camping and track impacts is to apply limits on group sizes. A maximum party size of 8 is standard in minimal impact walking guidelines as it is recognised that large groups have greater environmental impacts. Imposing an absolute maximum of 8 in the Budawangs would cause problems for clubs and particularly for school excursions because of the requirement to have at least two adults with each school group. A party size of 8 should be encouraged but the maximum will be set at 12. School and youth groups should not be excluded from the Budawangs but must use the area sustainably and in accordance with wilderness principles.

The main impact of large groups is in camping areas and for this reason a size limit for day walkers is less critical. Meeting large groups along the track can reduce the feeling of being in a remote area, however, and it would be desirable for day walking groups not to exceed 12.

It may not be possible to achieve a reduction in camper impacts at popular sites unless the total number of overnight walkers at peak periods is reduced. The only way to achieve this is through a permit system. Permit systems can, however, be inconvenient for walkers and difficult to administer and enforce, and should only be applied where essential. There is support among walking groups for a limited permit system in the Budawangs, for popular locations at peak periods, and a system will be trialed for the heavily used Cooyoyo Creek camping area.

MONITORING

Monitoring is essential in a heavily used and sensitive area like the Budawang. Monitoring can check for changes in visitor use and environmental condition, test management effectiveness and guide future management responses. It can show impacts and progressive changes that may not be readily noticeable and provide clear evidence to demonstrate the need for controls on use. Monitoring of impacts will provide feedback on whether the Strategy as a whole is working and whether specific measures such as permit systems need to be introduced or adjusted.

Monitoring could cover factors such as walker numbers, track creation, track depth, water quality and extent of vegetation loss in camping areas. Monitoring methods could include use of aerial photography, ground photo points, direct measurement and observation.

Regular monitoring would require a high input of staff time and commitment to taking measurements and should be kept as simple as possible. It may be feasible to ask user groups to become involved in monitoring and several clubs have expressed their willingness to assist.

INFORMATION PROVISION AND PUBLICATIONS

Provision of appropriate information is a major means for guiding use towards sustainable locations and away from sensitive features and damaging activities. Most walkers use tracks and camp sites they are made aware of through maps and guides. Those walkers who are inclined to explore off the tracks also head for features that are marked on maps.

Because of serious deterioration of many of the popular destinations and walking routes it would assist if aspects of the information publicised in bushwalking guides and maps of the Budawang was reviewed. For user impacts to be minimised, it is important that the information in private publications is designed to promote sustainable and low impact use. The plan of management states that:

- *The Service will encourage authors of guide books to the two parks to provide information which encourages sustainable use patterns. Only books, articles, maps etc which show appreciation of the need for protection of sensitive natural and cultural features and which encourage minimal impact use will be endorsed or distributed by the Service.*

Section 9 sets out NPWS policy with regard to maps and publications. Mapping and some limited promotion of main camp sites, management trails and class 4 and 5 walking tracks are appropriate but there should be no detailed mapping of class 6 routes. Class 6 routes provide opportunities for highly experienced walkers to explore remote and challenging areas, thus promoting adventure and self-reliance. One way to indicate routes is to map named passes. Indicative route diagrams in publications, along with descriptions, may also be acceptable for appropriate Class 6 routes, as long as it is explained that they are suitable only for experienced and well-equipped walkers. Showing Class 6 routes on topographic or other detailed maps would not be appropriate as it would create a requirement to mark/maintain tracks on

the ground, to avoid the possibility of inexperienced walkers or those not equipped with navigation aids becoming lost.

Provision by NPWS of basic information about track conditions and use restrictions will be important. This can be done through entrance signs, leaflets, the Internet and direct communication with user groups.

EDUCATION

Education is an essential component of visitor management in the Budawangs and should continue to be undertaken through a variety of means. Users have suggested that educational messages should cover the roughness and remoteness of the area, safety equipment, threatened species and other values, and minimal impact techniques including specific advice about limiting the size of wood fires and carrying out all rubbish rather than attempting to burn it in fireplaces.

Expectations among a proportion of visitors to the Budawangs that the area is actively managed in the same manner as non-wilderness can best be countered by education. It is expected by some, for example that there are clear tracks, easy to follow intersections, safe conditions and that carrying a tent is not necessary. People also enter without adequate preparation, equipment or navigational aids. Entrance signs, the National Parks Website, leaflets, club newsletters and private publications could all carry appropriate messages to warn people about what to expect and what equipment they will need to take.

WALKER REGISTRATION

Walkers have placed visitor books at a number of locations and while these detract from the wilderness experience, they assist in monitoring use. NPWS collects and replaces full visitor books when feasible but others are maintained by clubs. It would be useful if these books were also given to NPWS.

Installation of registration bays at entrances was considered but is not feasible since staff are not present to check and replace used forms. Such a system could also lead to false expectations that search and rescue will be initiated once walkers are overdue. The most appropriate registration measure would be an expansion of the existing use of Journey Intention Forms. These are currently used primarily by organised groups but could be extended to all walkers if placed on the Website. It would need to be made clear that the forms are not part of a search and rescue system.

PART B - STRATEGIES

9. MANAGEMENT POLICY AND ACTIONS

The Strategy recognises that the Budawangs will continue to be a popular walking area because of its proximity to population centres, relatively easy walking and spectacular scenery. It acknowledges that the area has a long history of high use levels that have resulted in modification to the environment, with the creation of a network of walking tracks and camp sites. The existing pattern of use will be accepted but will be managed to minimise environmental damage. Existing major trails and camp sites will be retained while aiming to minimise disturbance and maximise wilderness experience in the remainder of the area.

Management policies, works and controls on use that are to be continued or introduced from 1 July 2007 are set out below.

1. Entrances

- Camping areas will continue to be provided at Wog Wog, Long Gully and Sassafras (walk-in).
- Existing track-head car parks will continue to be provided for the Pigeon House Mountain, Little Forest and Mount Bushwalker walking tracks.
- Entrance facilities will be kept under review and may be expanded or altered if necessary. They will, however, be kept low key in character.
- Legal vehicle access will be arranged at the Sassafras entrance if feasible. Walkers will continue to be encouraged to respect private property and to shut gates.
- Walkers using the Endrick entrance will need to park outside the private property and walk to the Red Ground Trail or along the Alum Trail. Walkers may also find their own way across country to the south of the private property and it is recognised that a new track may eventually form through the park between the Alum Trail and Round Mountain Trail.

2. Maintenance and Marking of Walking Tracks

- No new tracks will be constructed.
- Existing management trails and Class 4 walking tracks will continue to be maintained. Class 4 tracks will be signposted at trackheads outside the wilderness area and may have minor directional signposting where essential within wilderness.

- On Class 5 walking tracks some work will be undertaken where necessary to address environmental damage. Track work will be undertaken for environmental protection reasons, not to improve access and walker comfort.
 - Track sections that are eroding or poorly drained may be relocated;
 - Where tracks are braided, duplicate routes will be closed;
 - False leads will be closed;
 - Drainage works and minor facilities such as stepping logs or boardwalks may be installed in poorly drained or eroded locations;
 - Vegetation pruning will be undertaken where needed to keep walkers on tracks;
 - Tracks will not be signposted unless essential to indicate the correct route for environmental protection reasons or where there is a high potential for walkers to become lost.
- No work will be undertaken on Class 6 routes except for erosion control or closure where essential to address environmental damage.
- It is recognised that some Class 6 routes may in future become significantly walked in and subsequently need to be closed or recognised as Class 5. This will be avoided as far as possible in order to maintain wilderness experience and minimise environmental impacts. Class 6 routes will not be shown on NPWS produced maps and private publishers will be asked not to map them in detail. Publications showing these routes in detail will not be supported or distributed by NPWS.
- In the event of fire opening up large tracts of land, area closures may be imposed and works may be undertaken to:
 - reinforce the location of existing tracks using temporary signs; or
 - re-route tracks to more sustainable alignments.
- In accordance with the plan of management, unauthorised track markers will be removed unless they have historic value or are important for preventing people becoming lost. Misleading and duplicate cairns will be removed. As a precaution against the risk of people who rely on individual markers becoming lost, temporary warning signs will be placed at entrances to the Budawangs to give advance notice of when unauthorised markers are removed.
- Walking aids such as ladders and hand-held chains will generally be installed only for environmental protection reasons. They may be provided for safety reasons on Class 4 and 5 walking tracks.

3. Group Size and Walker Registration

- Overnight walkers will be encouraged to keep group sizes to a maximum of 8 people and no more than 12 people will be permitted.
- Organised groups walking in separate parties must not meet up in camping areas unless the total number is 12 or less and the number of tents is less than the maximum allowed in the camping areas (see Tent Camping below).

- No group size limit will be placed on day walkers but they will be encouraged to keep to a maximum of 12.
- Walkers will continue to be encouraged to fill out journey intention forms and consideration will be given to expanding this system by placing forms on the national parks web site.
- Existing visitor books will be allowed to remain if considered to have value for visitor monitoring and search and rescue purposes. Clubs that maintain books will be asked to send used books to NPWS.

4. Peak Time Permit System

- A permit system will be trialed for the Cooyoyo Creek camping area over the Easter and October long weekends from 2008. It may be extended to other popular periods such as the Autumn and Spring school holidays if required. The success of the system in reducing impacts at Cooyoyo Creek and any drawbacks such as shifting of impacts to other locations will be monitored.
- If necessary, a wider permit system will be introduced to restrict camper numbers at peak periods to an amount that will avoid further camping area expansion along the main routes and protect environmental values and wilderness experience. If feasible the permit system will be applied selectively to the most heavily used routes or locations.
- As far as possible any permit system will be Internet-based. Walking clubs and school groups will be provided with a group permit rather than requiring each member of the group to seek one individually.

5. Tent Camping

- Camping will continue to be prohibited in the following areas in accordance with the plan of management:
 - Monolith Valley
 - Castle Saddle
 - Hidden Valley
 - The Vines rainforest
 - Along the Two Rivers Track within wilderness (south of the Little Forest Walk car park).
- Camping will also be prohibited within the artillery impact area except at recognised cleared camping areas as set out below in subsection 9.
- In order to stop popular camping areas from further expanding, walkers will be asked to observe the following limits on numbers of tents. These limits are guidelines only as it is recognised that groups that arrive late or in poor weather may not be able to move on to other sites.

Camping area	Maximum tents
Bibbenluke group of sites	12
Cooyoyo Creek	12
Styles Plain	12
Burrumbeet	6
Canowie Brook	6

- Camp sites may be rested by temporary closure if necessary to encourage vegetation regrowth.
- Following bushfires, camp sites may be temporarily closed or their extent limited to avoid expansion.
- NPWS will work with the landholder of the Corang Lagoon area to minimise camping impacts.

6. Cave Camping

- In accordance with the plan of management, camping will only be permitted in designated caves and rock overhangs. The caves below are on the main walking routes and have high use levels. Camping will be permitted in these caves unless further investigation shows that significant values remain and are at risk.

Burrumbeet Brook group
 Bibbenluke
 Camp Rock
 Cooyoyo Creek
 Corang Peak group
 Hoddle Creek
 Mount Cole group

Mount Haughton group
 Mount Tarn group
 Nibbelung
 Castle Saddle Track
 Watsons Pass
 Styles

- Archaeological survey and on-site inspection with Aboriginal community representatives will progressively be undertaken to determine whether any of the above caves retain significant cultural values and should be removed from the list of caves where camping is allowed.
- Survey of the above caves will be undertaken for the rare plant *Budawangia gnidioides* to determine if continued camping will have a significant impact on any remaining *Budawangia* populations. At least one cave in the Mount Cole group is known to still have remnant populations of *Budawangia*. This cave and any others identified among cave groups where it is considered that the *Budawangia* is at risk will be marked to indicate that camping is not permitted.
- Camping will not be permitted in any other caves or overhangs except in emergencies (eg sudden storm, injury).
- All walkers will be encouraged to carry tents and to use these rather than caves.

- Walkers will be advised that cutting of plant material for bedding or any other reason is not permitted and not to dig or alter the floor of caves.

7. Fuel Stoves

- Use of fuel stoves will be encouraged.
- Wood fires will continue to be prohibited in the following areas in accordance with the plan of management:
 - Monolith Valley
 - Castle Saddle
 - Hidden Valley
 - The Vines rainforest
 - Along the Two Rivers Track within wilderness (south of the Little Forest Walk carpark).
- The following camp sites will be designated as fuel stove only areas:
 - Bibbenluke
 - Burrumbeet Brook
 - Canowie Brook
 - Cooyoyo Creek
 - Styles Plain.
- Wood fires will be banned in all caves and overhangs.
- If the above selective bans lead to visitor confusion, escape of fire from camp sites occurs or continued degradation due to wood collection becomes environmentally unacceptable, the whole Budawang will be declared a fuel-stove-only area.

8. Toilets

- Toilets of minimal construction will be installed at the Cooyoyo Creek and Burrumbeet Brook camp sites.
- The success of the toilets in reducing environmental impacts and maintaining water quality will be evaluated over a two year period. Additional toilets will be installed at Bibbenluke, Canowie Brook and Styles Plain if they prove to be of benefit. Toilets will be removed if there is no improvement in impacts or they lead to further problems.
- The design and siting of toilets will minimise their visual intrusion and environmental impact.
- Walkers will be encouraged to carry out human waste from locations with shallow soils unsuitable for disposal by burying.

- Information will be provided about the impacts of human waste, why provision of toilets is needed at popular camp sites and the need to carry out waste from areas with shallow soils.

9. Former Military Training Area

- The former artillery impact area is defined as that part of the training area north of a line drawn between Island Mountain and the prominent point south of the Claydons Creek headwater.
- In the former artillery impact area walkers must keep to designated vehicle trails (Endrick River Trail, Tianjara Trail, Tianjara Link Road and Twelve Mile Road) and the Folly Point walking track. No camping will be permitted except at the Sassafras and Link Road camping areas. Digging and campfires are not permitted along the tracks.
- Campers must not move outside the delineated areas at the Link Road camping area and the cleared area at the Sassafras camping area, as UXO can be buried or hidden by vegetation, leaf litter and fallen timber.
- In the remainder of the former training area walkers will be advised that explosive training devices may be present. If found, they should be left alone and reported to NSW Police.

10. Signage

- Information signs will be erected at the following entrances to the Budawangs (outside the wilderness area):
 - Wog Wog camping area
 - Long gully camping area
 - Sassafras camping area
 - Endrick entrance
 - Pigeon House car park
 - Mt Bushwalker car park.
 Other locations may be considered.
- Signs at major entrances will provide the following information:
 - The values of wilderness;
 - Information about natural and cultural values, including information relevant to particular locations where appropriate, such as the high cultural significance of Pigeon House Mountain;
 - Restrictions on camping, wood fires and group sizes;
 - Encouragement to carry tents and fuel stoves, to avoid any camping in caves and overhangs and to avoid walking-in Class 6 routes by choosing alternative routes;
 - The conditions walkers can expect and measures to assist walker safety such as necessary equipment;
 - Information about track classes and the former military training area;

- Minimal impact walking practices particularly the need to minimise wood use where wood fires are allowed (and preferably to use fuel stoves), to put out fires, take out rubbish and adequately bury or carry out toilet waste. Walkers will also be advised not to cut live vegetation and not to dig or alter the floor of caves.
- Smaller signs may be provided at minor entrances such as the Clyde Gorge and Little Forest car park. These will provide information about use restrictions and other essential information from the list above.
- Entrance signs may include diagrammatic maps with boundaries and management trails shown but walking tracks will not be shown in order to avoid any expectation that tracks are marked or easy to find.
- Warning signs about unexploded ordnance will continue to be used around the former military training area area, including signs along the tracks in the impact area where required.
- Other signs will be avoided as far as possible within the wilderness area but may be installed where necessary, such as temporarily to achieve closure of duplicate walking tracks or advise camping closures or toilet locations. Temporary signs will be removed when no longer needed.

11. Maps and Publications

- Authors of private publications about the Budawangs will be encouraged to provide appropriate information that is in accordance with the Strategy and promotes sustainable use. In particular, authors will be encouraged to include information about the values of wilderness and of the Budawangs in particular, minimal impact practices, safe walking, restrictions on use and the reasons for restrictions. Authors will also be asked not to provide information about walks off designated tracks in the military training area, caves not on the list of designated camping caves and sensitive environmental and cultural features. Publications that encourage inappropriate use and are contrary to the Strategy will not be endorsed or distributed by NPWS.
- The following features would be appropriate to show on topographic maps of the Budawangs:
 - Fire trials
 - Class 4 and 5 walking tracks
 - Named passes
 - Named features of interest
 - Camp sites with toilets
 - Former artillery impact area and broader training area.
- Other camp sites, caves where camping is allowed and Class 6 routes should not be shown on topographic maps but indicative locations and routes for appropriate walks could be shown on diagrammatic maps, combined with descriptions in walking guides.

- The Land Information Centre will be asked to update topographic maps covering the Budawangns in accordance with the above and to relocate features that are currently shown in the wrong position. The LIC will also be asked to consider producing a single topographic map at a suitable scale to cover the whole Budawangns.

12. Other Information Provision

- Information about walking conditions that can be expected, the need to be adequately prepared, minimal impact use, restrictions on use and other appropriate information will be posted on the National Parks Website
- Information may be provided to major user groups through leaflets, talks or in response to issues or inquiries.
- Changes to use restrictions, temporary closures etc will be publicised on the National Parks Website, displayed at entrances to the Budawangns and sent to major user groups.
- An information leaflet will be prepared for walkers that provides basic information about conditions and use restrictions in the Budawangns.

13. Monitoring

- A monitoring program will be developed and implemented. Consideration will be given to including the following:

Issue	Aim	Method	Location
Vegetation loss in camp sites	Indicate if camp sites are expanding or deteriorating and if restrictions or resting are needed	Fixed photo points	Popular camp sites
Walking track proliferation	Avoid creation of additional tracks, indicate need for measures such as re-routing, closures or permits	Aerial photos/survey	Areas used regularly for walking
Walking track profiles	Avoid significant widening or deepening of tracks, indicate need for re-routing, erosion control or permits	Simple measuring device	Class 5 walking tracks
Water quality	Avoid pollution, measure success of education and toilets or need for additional measures	Water sample to lab	Watercourses near camping areas
Toilets at main camp sites	Assess the impact of toilets on water quality, aesthetics, track proliferation and other issues	Water sample to lab, visual assessment, camper counts	Main camp sites
Toilet waste at other sites	Check for deterioration and if need measures such as education, use restrictions, toilets	Visual assessment	Caves and camp sites without toilets

Issue	Aim	Method	Location
Visitor numbers and attitudes	Show use patterns, awareness of strategy requirements and minimal impact practices etc	Infra-red counters, spot counts, questionnaires	Entrance points, camping areas

- Where feasible, bushwalking organisations will be asked to assist in monitoring. Interested clubs will be asked to contact NPWS to find out how they can be involved. Consideration will also be given to posting monitoring tasks on the Website and setting up a feedback site for walkers to send observations and comments.
- A record will be kept of walking track and other works, in order to enable an understanding of changes to the area and assessment of the success of works in addressing issues.

Wilderness Detail Map

10. SUMMARY OF WALKER REQUIREMENTS AND GUIDELINES

A summary of walking and camping restrictions and guidelines is provided below for quick reference.

	Requirements	Guidelines
Group size	<p>Overnight walkers – maximum group size of 12 people allowed but encouraged to keep to a maximum of 8.</p> <p>Organised groups walking in separate parties must not meet up in camping areas unless the total number is 12 or less and the total number of tents is less than the maximum for the camping area (see below).</p>	Day walkers – no restrictions but encouraged to keep to a maximum of 12 people in a group.
Permits	A permit will be required for the Cooyoyo Creek camping area at the Easter and October long weekends from 2008 onwards. Further permit requirements may be introduced.	
Tent camping	No camping permitted in Monolith Valley, Castle Saddle, Hidden Valley, The Vines rainforest and along the Two Rivers Track within wilderness (south of the Little Forest Walk car park). Restrictions also apply in the former artillery training area (see below).	Campers are asked to observe limits on tent numbers at the main camp sites, as set out below, and to move to other locations if these camping areas are full.
Cave camping	<p>Camping in caves and overhangs is permitted only in the caves listed below. Camping is not permitted in any other caves or overhangs except in emergencies (eg sudden storm, injury).</p> <p>Digging or alteration of cave floors is not permitted.</p>	Walkers are encouraged to carry tents and to use these rather than caves.
Wood fires	Wood fires are prohibited in the main camping areas, all caves and the fuel-stove-only areas listed below.	Walkers are asked to keep fires small in order to minimise the impacts of wood gathering and to closely maintain and extinguish fires to prevent bushfires occurring. Use of fuel stoves rather than wood fires is encouraged.
Military training area	<p>In the artillery impact area (north of a line drawn between Island Mt and the point south of the Claydons Creek headwater) walkers must keep to vehicle trails and the Folly Point walking track. Digging and campfires are not permitted along the tracks.</p> <p>No camping permitted in the artillery impact area except at the Sassafras and Link Road sites. Campers must stay within the delineated/cleared areas.</p>	Remainder of training area – walkers are advised that explosive training devices may be present. If found, they should be left alone and reported to NSW Police.

	Requirements	Guidelines
Journey intention forms		Walkers are encouraged to fill out journey intention forms, available on the website or from NPWS offices.
Human waste		Minimal impact practices should be carried out such as burial and distance from waterways. Walkers are asked to carry out human waste from locations with shallow soils unsuitable for disposal by burying.
Cairns	Placement of cairns and other track markers is not permitted.	
Other	Cutting of plant material for bedding or any other reason is not permitted.	Minimal impact camping practices should be observed.

Caves where camping is allowed

Burrumbeet Brook group	Mount Haughton group
Bibbenluke	Mount Tarn group
Camp Rock	Nibbelung
Cooyoyo Creek	Castle Saddle Track
Corang Peak group	Watsons Pass
Hoddle Creek	Styles
Mount Cole group	

Maximum tent numbers in main camping areas (guideline)

Camping area	Maximum tents
Bibbenluke group of sites	12
Cooyoyo Creek	12
Styles Plain	12
Burrumbeet	6
Canowie Brook	6

Fuel Stove Only areas (wood fires prohibited)

Area	Camping area
Monolith Valley	Bibbenluke
Castle saddle	Cooyoyo Creek
Hidden Valley	Styles Plain
The Vines rainforest	Burrumbeet Brook area
Two Rivers Track south of Little Forest	Canowie Brook
All caves and overhangs	

APPENDIX 1 – Walking Track Classification System

Class	General Description	Key Track Characteristics
All access path (Class 1)	Opportunity for large numbers of visitors, including those with reduced mobility, to undertake walks with a high level of interpretation and facilities.	Broad, hard surfaced track suitable for wheelchair use. Includes signs and track markers and may have facilities such as seats and barrier rails.
Graded path (Class 2)	Opportunity for moderate numbers of visitors to walk easily in natural environments with a moderate to high level of interpretation and facilities.	Generally a modified or hardened surface. Minimal use of steps. Includes signs and track markers and may have facilities such as seats and barrier rails.
Walking track (Class 3)	Opportunity for visitors to walk in slightly modified natural environments requiring a moderate level of fitness and where the provision of interpretation and facilities is not common.	Generally a modified surface, sections may be hardened. Steps may be common. Signs and track markers may be used for direction. Facilities generally not provided.
Hiking track (Class 4)	Opportunity for visitors to explore and discover relatively undisturbed natural environments along defined and distinct tracks with minimal (if any) facilities. Users can expect opportunities to observe and appreciate the natural environment without provision of interpretive signage. Users can expect opportunities for solitude with few encounters with others.	Generally distinct without major modification to the ground. Encounters with fallen debris and other obstacles are likely. Minimal signage for management and directional purposes. Facilities generally not provided except for specific safety and environmental considerations. Users require a moderate level of specialised skills such as navigation skills. Users need to be self-reliant, particularly in regard to emergency first aid and possible weather hazards.
Trail (Class 5)	Opportunity for visitors with advanced outdoor knowledge and skills to find their own way along often indistinct tracks in remote locations. Users can expect frequent opportunities for solitude with few encounters with others.	Limited modification to natural surfaces and track alignment may be indistinct in places. Minimal cleaning, and debris along the track. May include steep sections of unmodified surfaces. Signage is limited and only for management purposes. Facilities generally not provided except for specific safety and environmental considerations. Users require a high degree of specialised skills such as navigation skills. Users may require maps and navigation equipment to successfully complete the walk. Users need to be self-reliant, particularly in regard to emergency first aid and possible weather hazards.
Route (Class 6)	Opportunity for highly experienced walkers to explore remote and challenging natural areas without reliance on managed tracks. Users can expect extended periods of solitude with few encounters with others.	No modification of the natural environment. Signage and facilities generally not provided. Users require previous experience in the outdoors and a high level of specialised skills such as navigation skills. Users will generally require a topographic map and navigation equipment to undertake the walk. Users need to be self-reliant, particularly in regard to emergency first aid and possible weather hazards.

Note - The Australian Standard for walking tracks (AS2156.1-2001) has been used as the basis for the track classification system. Refer to this Standard for complete details on each class of track. The names given to each class of track have been applied for ease of comprehension and are not derived from the Standard.

APPENDIX 2 - Management Options Considered During Preparation of the Strategy

DESCRIPTION	ADVANTAGES	DISADVANTAGES
Education		
<p>Could be used to increase use of minimal impact practices such as fuel stove use, minimising cave camping and disposal of toilet waste. Could be done through measures such as information provided at track-heads, brochures, on the internet, in government and private publications and through liaison with walking organisations and clubs.</p> <p>An issue that might respond to education is the unwanted creation of new tracks. Track proliferation is often the result of visitors seeking better vantage points or shortcuts on a once-off basis, or trying to find new routes for the longer term. There is also a conflict between the notion of negotiable routes and sustainable management as negotiable routes become walked-in.</p>	<ul style="list-style-type: none"> • reduced impact if minimal impact practices are followed; • improvement of wilderness quality; • more acceptable to most people than works and restrictions; • would have benefits beyond the Budawangs by improving awareness and understanding of walking impacts and techniques elsewhere. 	<ul style="list-style-type: none"> • involves some cost; • there may be a low compliance rate if restrictions are voluntary.
Impact Mitigation Works or Facilities		
<p>These include works such as drainage control on tracks, track hardening to prevent duplication, track re-routing, construction of toilets, camping platforms, signposting to guide use of particular areas, pruning to encourage use of a particular track, and provision of water supply to reduce tracking to water sources. These measures address damage and increase environmental carrying capacity. See Section 5 for work to date.</p>	<ul style="list-style-type: none"> • reduced erosion, vegetation loss, soil compaction, water pollution, track creation around camp sites and visual impact; • reduced risk of getting lost if tracks are easier to follow; • more pleasant walking experience for many people, although this is not the aim of such works. 	<ul style="list-style-type: none"> • cost, both capital and maintenance costs and staff time; • decreased wilderness character/experience • potential to attract new users and therefore increase overall use levels, along with increased impacts and decreased solitude; • possible non-acceptance of camping platforms/pads; • visual impact of toilets and camping platforms.
Promotion or Signposting of Particular Locations or Tracks		
<p>Visitors could be encouraged or directed to use particular tracks or camp at locations that can sustain moderate use levels. This could be on a temporary or longer term basis. NPWS could work with authors to promote suitable tracks and areas that currently receive relatively low use and divert use from highly impacted areas.</p> <p>Walking tracks could be sparingly signposted to avoid creation of duplicate or unnecessary tracks.</p>	<ul style="list-style-type: none"> • could reduce impacts at heavily used or sensitive locations; • could reduce creation of false leads and duplicate tracks; • could assist walkers unfamiliar with the Budawangs and reduce the risk of people getting lost. 	<ul style="list-style-type: none"> • could create a sense of being regimented/loss of freedom; • could encourage inexperienced walkers to visit the Budawangs and increase overall use levels; • wilderness experience would be reduced, particularly if walkers met higher numbers on tracks or at camp sites; • higher use would increase impacts and loss of wilderness experience at the locations walkers were directed to.

DESCRIPTION	ADVANTAGES	DISADVANTAGES
Activity Restrictions		
<p>Could include restrictions such as group size limits, prohibiting wood fires, limits on camping in certain locations or situations, and bans on other activities such as abseiling in inappropriate locations.</p> <p>Large groups have far higher impact than small groups, particularly in camping areas, and reduction in group size could have significant environmental benefits.</p> <p>The use of fuel stoves is an important means of reducing vegetation loss and habitat damage around campsites. It also avoids the problem of fire escape from camp fires that have not been properly extinguished and improves the aesthetics of campsites.</p>	<ul style="list-style-type: none"> • directly reduce impacts; • could be used to control impacts in areas of greatest need, without necessarily restricting activities elsewhere; • bans on wood fires at caves and popular camp sites would encourage people to use other locations. • group size limits would result in less crowding at campsites and an enhanced wilderness experience; • likely to be better accepted than a permit system. 	<ul style="list-style-type: none"> • difficult to enforce; • difficult to define locations of restrictions; • difficult to inform public and keep information current.
Area Closures		
<p>Sensitive or damaged locations or tracks could be closed to all use either temporarily or on a long term basis eg after bushfires. Requirements to keep to existing tracks in the former artillery impact area are a form of closure.</p>	<ul style="list-style-type: none"> • could be used to protect culturally sensitive locations; • could be used to increase visitor safety; • could be used to rest an area to allow recovery; • could be used to manage impacts on threatened species or disturbance during breeding periods. 	<ul style="list-style-type: none"> • difficult to enforce; • difficult to define area and transmit information, especially for temporary closures; • potential for confusion and inconvenience to visitors.
Permit System		
<p>This would require prospective visitors to obtain consent prior to departing for a walk in the Budawang. It could be done through a variety of means including written permits, telephone permits and the Internet. An administration fee could be charged. A partial permit system could also be considered, to be applied only at peak times or in certain areas.</p>	<ul style="list-style-type: none"> • direct control over visitor numbers and therefore impacts because of the correlation between numbers and impacts; • potential for cost recovery; • could be used to achieve an experience closer to true wilderness; • could be used to direct people to particular tracks and camp sites; • could be used to manage area/zone closures and track closures to allow resting of areas for environmental recovery. 	<ul style="list-style-type: none"> • severe controls on numbers would displace walkers to other areas which at present have low levels of impact; • a permit system would be extremely difficult to enforce because of the numerous entry points and remote situation; • it would be inconvenient and inflexible for users; • it would be administratively costly unless a self-administered computerised system becomes feasible such as through widespread Internet access.