

Seeing the Gardens...

the other Blue Mountains



**NATURE-BASED
TOURISM AND RECREATION
IN THE
GARDENS OF STONE STAGE TWO
PARK PROPOSAL**



**Blue Mountains
Conservation Society**



**Colong Foundation
for Wilderness**



Smooth pagoda domes above the Capertee Valley

Published July 2009 by Blue Mountains Conservation Society Inc. and Colong Foundation for Wilderness Ltd.

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National Library of Australia Cataloguing-in-Publication

Blue Mountains Conservation Society, Colong Foundation for Wilderness.

Seeing the Gardens: the other Blue Mountains: nature-based tourism and recreation in the Gardens of Stone stage 2 park proposal

ISBN: 9780858812253 (pbk)

1. National parks and reserves - New South Wales – Blue Mountains - Management. 2. National parks and reserves - New South Wales – Blue Mountains - Planning. 3. Gardens of Stone National Park (N.S.W.) - Management. 4. Gardens of Stone National Park (N.S.W.) - Recreational use.

333.783099445



Red Box forest, Genowlan plateau

Executive summary

The Gardens of Stone Park Proposal Stage Two (GoS2) covers an area of 40 000 hectares of sandstone escarpment and plateau in the western Blue Mountains. It takes in parts of the upper Capertee Valley, Coxs River headwaters, Newnes Plateau and Blue Mountains western escarpment (see Map 1).

The objective of the GoS2 proposal is to achieve better management and protection of this area's many important natural and cultural values. The GoS2 park is proposed to be a mixture of state conservation area (SCA) and national park tenure. SCA status allows underground coal mining to continue.

This plan for nature-based recreation and tourism offers a positive economic vision for the GoS2 proposal under conservation management.

The GoS2 area

GoS2 comprises a large part of that distinctive and remarkable landscape that forms the high western edge of the Blue Mountains sandstone plateau. Extending into the Gardens of Stone National Park and Wollemi National Park, this region is characterised by a unique assemblage of spectacular rock formations, coloured clifflines, canyons, forested valleys, windswept plateau heathlands, rainforest gorges and montane woodlands and swamps. The rugged landscape has moulded specific human responses from Aboriginal exploration to modern industries, creating a culturally distinctive heritage.

Existing recreation and tourism in GoS2

Recreational use of GoS2 is less intense than in the adjacent, more well known parts of the Greater Blue Mountains World Heritage Area (GBMWA), and relatively undeveloped in terms of facilities and promotion. Recreational development in GoS2 north of Chifley Road (Newnes Plateau northwards) is embryonic, while the area to the south (Blue Mountains western escarpment) is at a more mature stage. The western escarpment features access roads, lookouts, walking tracks, several camping/picnic areas and historic features. Blackfellows Hand is a popular Aboriginal site with no facilities and a camping area is provided at Bungleboori in Newnes State Forest.

Informal recreational use independent of facilities is more widespread throughout GoS2, and includes vehicle touring, vehicular recreation (4WD and trail bike), dispersed

camping, off-track bushwalking, canyoning, rockclimbing and mountain biking. Some of this activity is illegal and some is creating widespread and unmanaged impacts.

Commercial activities and tours are limited to infrequent vehicle tours and bushwalking throughout the GoS2 area, and abseiling and rockclimbing on the Blue Mountains western escarpment. The Zig Zag Railway and Glow Worm Tunnel are popular attractions on the periphery of GoS2, while the Blue Mountains western escarpment features the Mount York historic precinct and a number of lookouts and walking tracks. A range of tourist accommodation is available in the local centres of Lithgow, Mount Victoria, Blackheath and Medlow Bath. The Greater Blue Mountains Drive is a series of vehicle touring routes throughout the GBMWH, linking major highways to 18 more remote Discovery Trails, four of which provide access to GoS2.

The future of nature-based tourism and recreation in GoS2

There is a need to establish an effective recreational management regime over GoS2, so as to:

- protect the values of the area;
- exclude illegal activities;
- make sustainable those activities that are currently ecologically unsustainable;
- provide for and promote ecologically sustainable and environmentally acceptable recreation and tourism activities.

The potential of the GoS2 area for low-impact, nature-based recreation and tourism is great, but under-recognised and under-utilised at present. The natural and cultural attractions are many, varied, widespread across the area and highly appealing. Some features (e.g. Lost City, Carne Creek gorge, New Hartley mining heritage, Wolgan Valley Rail Trail) have the potential to become iconic attractions of wide fame. A number of easy wildlife viewing opportunities exist and several Aboriginal heritage experiences are available. This basic resource of varied opportunities is enhanced by a high level of accessibility and large areas of relatively gentle terrain.

The existing park areas close to GoS2 offer similar features and experiences, but are less accessible. GoS2 brings this remarkable landscape to the people, by offering a wider range of experiences. GoS2 has the potential to complement the world heritage area by presenting less daunting Blue Mountains bushland which is more readily accessible to vehicles and visitors lacking specialist bush skills.

A comprehensive range of visitor opportunities can be established relatively easily across GoS2, to support a high level of nature-based tourism (see Maps 2 and 3). An identified suite of touring routes for motor vehicles and bicycles provides access to a range of potential camping areas, bushwalks, lookouts and cultural and wildlife experiences. Most of the proposed places of interest can be linked into a 'Gardens of Stone Grand Tour' which could be taken over one to three days by 4WD vehicle.

This network of visitor experiences would provide the basis of a whole new nature-based marketing initiative for the western Blue Mountains, promoting the *Gardens of Stone* as the very distinctive *other side of the Blue Mountains*. Such a future could realise significant economic opportunities through visitor expenditure, and for both specialised

services (tours, eco-accommodation) and more general commercial activity in the surrounding area.

Economic benefits of GoS2

Estimating tourism to protected areas and economic benefits can be difficult. Based on comparable statistics and studies from NSW, Queensland and Victoria, the upper estimate for tourism to a GoS2 park with the proposed facilities is 50 000 visitors a year. This level of tourism activity is estimated to produce net benefits in the order of \$28M to \$38M, depending on the discount rate used. These net benefits may represent a minimum value since management costs savings to Forests NSW have not been able to be included and the levels of timber production and royalties assumed may be conservatively high.

The regional economic benefit produced by 50 000 visitors to GoS2 is estimated as a direct spend of around \$3M to \$4M. This does not include expenditure on park management, nor the expansion of commercial tour activities and the establishment of new visitor accommodation in nearby areas which is likely to follow.



Endangered pagodas, evening light



Heath-myrtle



Pantoneys Crown from Genowlan Plateau

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Pagodas, Scribbly Gums and fruiting *Calytrix tetragona*



Endangered heath community, Genowlan Plateau

Acknowledgements

This report has been researched and prepared by Ian Brown for the Blue Mountains Conservation Society Inc. and the Colong Foundation for Wilderness Ltd. Most of Chapter 9 Economic Assessment was prepared by Rob Gillespie of Gillespie Economics. The maps were prepared by Karen McLaughlin and Keith Muir.

Many other people were consulted in preparing this report, and assisted by providing information, advice or comments. The following are gratefully acknowledged:

Tara Cameron, Mike Corkin, Julie Eggenhuizen, Craig Flynn, Michael Forbes, Kim de Govrik, Joost Heymeijer, Karen McLaughlin, Brian Marshall, Soren Mortenson, Keith Muir, Veronica Nolan, Chris Pavich, Jodie Rayner, Olga Rumble, Michael Sharp, Richard Stiles, Tim Tranter, Andrew Valja, Mike Wilson.

However the report does not necessarily represent the views of anyone but the author.

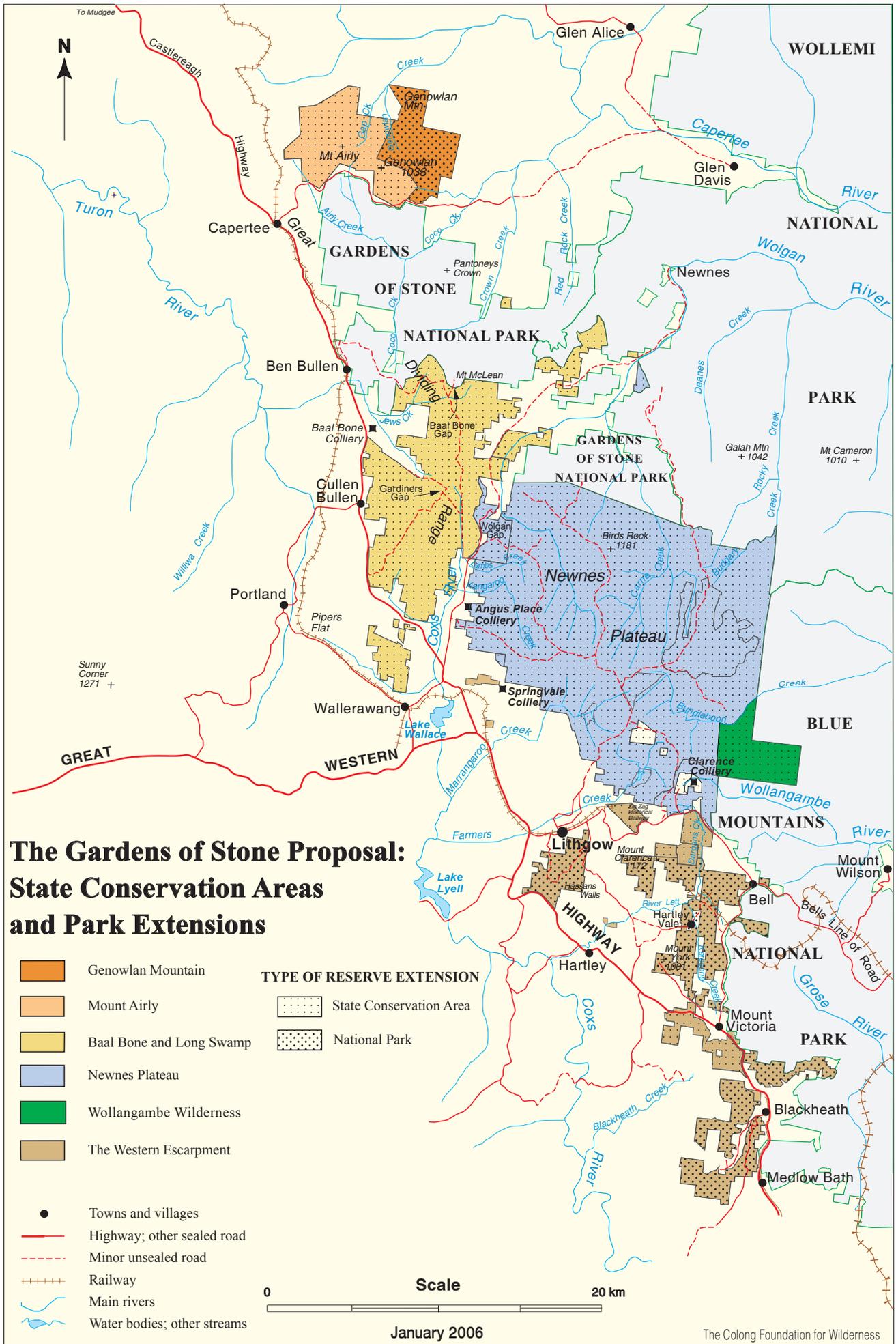
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Definitions

Recreation: a leisure activity undertaken primarily for enjoyment.

Tourism: the travel of people outside of their usual environment and those activities undertaken (including recreation) that result in expenditure.

Map 1. The Gardens of Stone Park Proposal Stage Two





Pagoda Daisies (rare plant) and ironstone

1 Introduction

1.1 Purpose of this report

This report has been commissioned by the Blue Mountains Conservation Society Inc. (BMCS) and the Colong Foundation for Wilderness Ltd (CFW). The purpose of the report is to propose a nature-based recreation and tourism plan for the Gardens of Stone Park Proposal Stage Two, and to estimate the associated economic benefits that might result if the plan was implemented. The objective of the proposed recreation plan is to offer a positive vision for nature-based tourism in the area under conservation tenure that is consistent with the protection of the area's natural and cultural values.

1.2 The Gardens of Stone Stage Two park proposal

The Gardens of Stone Park Proposal Stage Two (GoS2) covers an area of 40 000 hectares of sandstone escarpment and plateau in the upper Capertee Valley, Coxs River headwaters, Newnes Plateau and Blue Mountains western escarpment areas. The proposal stretches over some 70 km in a NNW to SSE direction. All lands within the proposal are under some form of public ownership.

BMCS, CFW and other environment groups have proposed that this area be protected in a suite of conservation reserves (Muir 2005). Some parts are proposed to be added to the existing Gardens of Stone and Blue Mountains national parks, which adjoin parts of the proposal. Two new State Conservation Areas are proposed to be created over the remaining area, to allow for ongoing underground coal mining and other uses incompatible with national park status.

The proposal falls into four broad geographic zones (shown in Map 1):

- the Airly-Genowlan mesas in the upper Capertee Valley;

- Ben Bullen State Forest and Wolgan State Forest on the Great Dividing Range north of Wallerawang;
- Newnes State Forest on Newnes Plateau;
- the western escarpment of the main Blue Mountains ridge from Lithgow to Medlow Bath, above the Kanimbla and Megalong Valleys.

The objective of the GoS2 proposal is to achieve better management and protection of the area's many important natural and cultural values.



Wollemi skyline from Birds Rock



Blue Mountains Ash and ironstone cliff

2 Existing Land Use and Recreation

2.1 Land use

All lands within the GoS2 proposal are either State Forest or other public tenure. A number of secondary tenures are in place over some of the lands, including Crown lease, mining lease and Crown reserve. The principal managing agencies are Forests NSW, the NSW Department of Lands, Lithgow City Council and Blue Mountains City Council. Current authorised land uses within the proposal include conservation and recreation, timber production (native and softwood) and coal mining.

Past and present underground coal mining underlies large parts of Ben Bullen, Wolgan and Newnes state forests and Hassans Walls Reserve. Additional areas are subject to proposed future mining operations. Surface works (air vents, drill holes, dams, water pumping stations, powerlines and access roads) and subsidence impacts affect the areas of underground mining.

With the exception of the pine plantations on Newnes Plateau, the GoS2 lands are primarily native forest and bushland with a number of disturbances and an extensive network of vehicle access. The topography is dominated by undulating plateaus bordered by very steep and rugged escarpments with spectacular clifflines, gorges and rocky pagoda complexes. This combination of public land, topography, access and features influences the way people are using the area for recreation.

2.2 Recreation and tourism

The level to which the various parts of GoS2 are subject to management for recreation varies widely. Visitor facilities are limited to parts of Newnes State Forest, Hassans Walls Reserve and the Blue Mountains western escarpment. Newnes State Forest has one picnic/camping area at Bungleboori Pines. Hassans Walls Reserve has a number of access roads and lookouts. The western escarpment has access roads, lookouts, walking tracks, several camping/picnic areas and historic features (e.g. Mt York precinct, Blackheath Glen). The Bicentennial National Trail traverses Ben Bullen State Forest.

Blackfellows Hand Aboriginal Site (recently designated as an Aboriginal Place under the NPW Act) is a popular site with no facilities (except a visitors' book).

These existing facilities generally have a low level of active management (improving in some areas) and do not have the promotion or profile of adjacent, more well known parts of the Greater Blue Mountains World Heritage Area and associated sites.

Informal recreational use is greater than formalised use in many parts of GoS2. In the Airly-Genowlan mesas and the state forests of Ben Bullen, Wolgan and Newnes, vehicle touring and vehicular recreation (4WD and trail bike) on and off the formed road networks is extensive and popular, along with associated dispersed camping. Newnes Plateau is also subject to off-track bushwalking and canyoning (mostly in national park, with access through the state forest), while small parts of the western escarpment are popular rockclimbing venues. Mountain biking, a rapidly growing activity, occurs mainly in parts of the western escarpment (e.g. Mt York, Hassans Walls) and Newnes Plateau, and at lower levels throughout the area. Some of these informal activities are creating widespread and unmanaged impacts, and some are not legally permissible (e.g. using vehicles off formed roads within a state forest, riding an unregistered motor cycle or being an unlicensed rider on any public lands).

The pattern of recreational use in GoS2 is part of a wider pattern across the western Blue Mountains. For instance, car tourers travel across Newnes Plateau to reach the Glow Worm Tunnel, the most popular tourist attraction in this area, and canyoners travel across the plateau to a number of canyons in the adjoining Wollemi National Park.

The part of GoS2 south of Chifley Road (Western Escarpment precinct) is in a more mature stage of recreational development than GoS2 to the north, which is at an embryonic stage. Implementation of the GoS2 proposal will in fact not be a significant change in management for the Western Escarpment, while it will be a radical change for the northern precincts. It follows that the northern sectors offer the greatest scope for economic benefits to flow from conservation management.

2.3 Tourism activity and promotion

Formalised tourism, in the form of commercial activities and tours, is mainly focused on the Blue Mountains Western Escarpment section of GoS2. This area is used in a range of vehicle tours, as well as by several adventure activity operators who use a number of cliff sites for abseiling and rockclimbing activities. A range of tourist accommodation is available in the local centres of Mount Victoria, Blackheath and Medlow Bath, with slightly more distant accommodation in Lithgow, Hartley Vale and Katoomba.

North of Chifley Road, formalised tourism activities are more limited. At Clarence the Zig Zag Railway and two eco-lodges lie on the periphery of GoS2. Three operators currently use the Newnes Plateau and some other areas for 4WD tours, and the Capertee Valley has a number of small 'boutique' accommodation providers which service the nature tourism market, specifically birdwatchers.

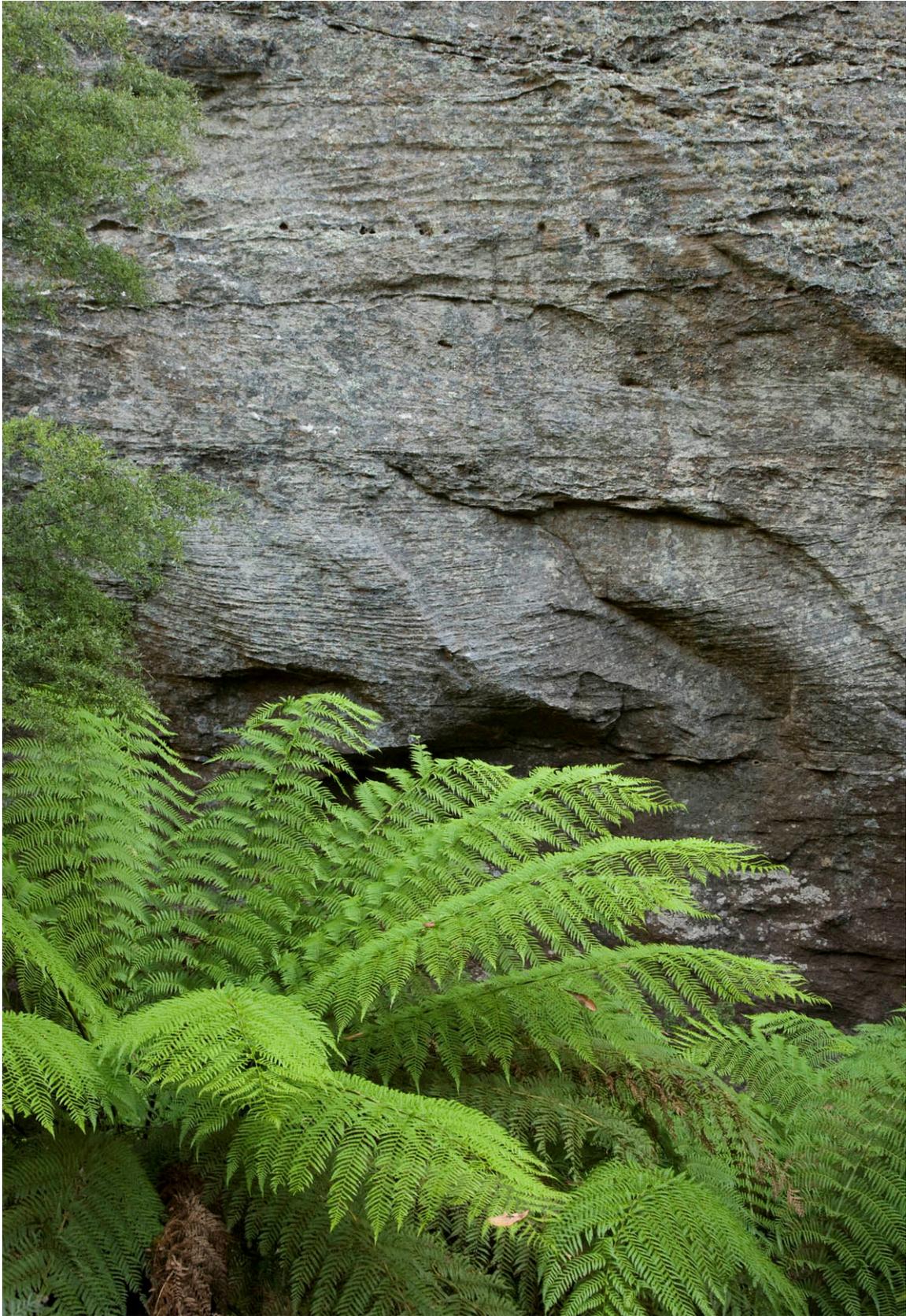
Apart from the adjacent Zig Zag Railway, the only other attraction associated with the northern sectors of GoS2 that is actively promoted at an official level is the Glow Worm

Tunnel. The tunnel lies within the existing Wollemi National Park but is accessed through the Newnes State Forest sector of GoS2. A range of features in the southern sectors of GoS2 (western escarpment) receive low-key promotion. These include the Hassans Walls lookouts, Mt York lookouts and historic features, Blackheath Glen and Shipley Plateau lookouts. The Hartley Valley has a number of accommodation providers, which cater for the heritage market.

A recent tourism initiative is the Greater Blue Mountains Drive, which is a series of vehicle touring routes throughout the GBMWA integrated with local towns and other attractions. Main access routes via major highways are linked to 18 Discovery Trails which reach deeper into bushland areas. All Discovery Trails are 2WD access, and several access parts of the GoS2 proposal. The drive is promoted through a dedicated website and other collateral. More details are provided in section 6 below.



Early morning pagodas, near Baal Bone Gap



Tree fern and sandstone



Grasstree, Banksias and Brittle Gums

3 What is Appropriate Recreation for GoS2?

The proposed recreation plan needs to be consistent with conservation tenure of the lands and the management priority of protecting the area's natural and cultural values. Since the area is proposed to be reserved under the National Parks and Wildlife Act, 1974, (NPW Act) as a combination of national park and state conservation area, the Act provides guidance as to what is legally permissible within these reserve categories.

As the management agency for national parks and state conservation areas, the National Parks and Wildlife Service (NPWS – a division of the NSW Department of Environment and Climate Change), provides further guidance through adopted policies and practice. NPWS has also formulated plans of management and draft plans of management for adjacent areas (Wollemi and Gardens of Stone national parks) that can guide visitor use for the proposal area.

Since the GoS2 proposal has been put forward by environment groups, it is also appropriate that any proposed recreational use of the area is consistent with their adopted policies. In some instances these policies are more limiting than NPWS policies.

3.1 Recreation in national parks

Under the NPW Act, one of the principles of management for a national park is:

provision for sustainable visitor use and enjoyment that is compatible with the conservation of the national park's natural and cultural values.

The NPW Act clearly intends that conservation is the primary objective, with recreation secondary. This is consistent with the policies of environment groups. In this regard some recreational activities are regarded as less appropriate in that they can lead to unacceptable impacts that can be difficult to control through management action. Trail bike riding, 4WDing and horse riding, and to a lesser degree, intensive rock climbing and intensive downhill mountain biking fall into this category. The NPWS sometimes takes a more accommodating response to some of these activities than environment groups, perhaps due to pressure or pragmatism.

Traditionally, national parks have been seen as supporting low-key, nature-based activities that cause minimal disturbance to the environment: walking, swimming,

cycling, mountain bike touring, picnicking, camping, nature study, photography, education, cultural heritage appreciation, adventure activities and scenic driving (where public access roads are provided). Facilities are often limited to the park periphery and typically include short access roads, parking areas, lookouts, picnic areas, camping areas and walking tracks. However, developments such as cafes or cabins that existed prior to park gazettal are sometimes retained.

3.2 Recreation in state conservation areas

Under the NPW Act, one of the management principles for a state conservation area (SCA) is:

provision for sustainable visitor use and enjoyment that is compatible with the conservation of the state conservation area's natural and cultural values and with uses permitted under other provisions of this Act in such areas.

In terms of providing for recreation, there is fundamentally no legal difference between national parks and SCAs. The key legal difference between the two reserve types is that mining may be permitted in a state conservation area but not in a national park. In the Sydney Basin, this option has been exercised in relation to underground coal mining. The state conservation area category enables areas to be reserved for conservation purposes regardless of whether they are or have been subject to mining activity. In the southern and northern coalfields such areas include Illawarra SCA, Dharawal SCA, Nattai SCA and Munmorah SCA.

Underground coal mining often leads to significant surface impacts, so that an area reserved as an SCA may be more disturbed than the more pristine condition that is normally expected of a national park. Some of these disturbances, such as access roads to surface facilities, may also be suitable for various recreational uses.

3.3 Recreational issues in GoS2

The current mix of recreational activity in the proposed GoS2 area is highly varied. Many activities are low key and environmentally benign, and consistent with the typical management regime of national parks and SCAs in NSW. Some activities are more intensive, damaging and environmentally unsustainable. In nearly all parts of the area, recreation is largely unmanaged and laissez faire (the exception being parts of the western escarpment managed by local councils, where the management effort has increased over recent years). This situation of unmanaged impacts is incompatible with conservation management.

A key issue is the dominance of off-road vehicular recreation, especially trail bike riding, on Newnes Plateau, and to a lesser extent in Ben Bullen State Forest and on Genowlan Plateau. This activity not only uses the extensive network of roads which were established for other purposes (timber extraction, mining, etc) but has increasingly created new roads and 'single tracks' through otherwise undisturbed bushland. Enthusiasts are using a large number of informal camping sites throughout the area and degrading them with vehicle impacts, fires, human waste and rubbish. These activities are predominantly illegal and tend to displace more passive and low-impact recreations such as bushwalking, cycling and family camping.



Pagoda and clouds

4 A Vision for Sustainable Nature-Based Recreation and Tourism in GoS2

4.1 The Gardens of Stone: a unique landscape and what it offers

GoS2 comprises a large part of that distinctive and remarkable landscape that forms the high western edge of the Blue Mountains sandstone plateau, in the headwaters of the Turon, Coxs, Wollangambe, Wolgan and Capertee Rivers. This is a landscape characterised by a unique assemblage of spectacular rock formations, coloured clifflines, canyons, forested valleys, windswept plateau heathlands, rainforested gorges and montane woodlands and swamps. The singular landscape has moulded specific human responses from Aboriginal exploration to modern industries, each activity leaving its own distinctive heritage to be studied and enjoyed.

This landscape has been given the evocative label of the Gardens of Stone. No-one who has walked amongst the pagodas in springtime could doubt the accuracy of this name. The ‘stone country’ landscape extends well beyond the current boundaries of the Gardens of Stone National Park and Wollemi National Park.

GoS2 offers the part of the Gardens of Stone landscape that is easily accessed and enjoyed by the general public. The existing parks offer similar features and experiences, but they tend to be only accessible to visitors with bush skills due to more rugged topography. GoS2, which is largely of more subdued terrain, brings the unique landscape of the Gardens of Stone to the majority of people.

4.2 The potential of GoS2

There is a need to establish an effective recreational management regime over the lands of GoS2. Such a plan would:

- protect the values of the area;
- exclude illegal activities;
- make sustainable those activities that are currently ecologically unsustainable;

- provide for and promote ecologically sustainable and environmentally acceptable recreation and tourism activities.

The potential of the GoS2 area for low-impact, nature-based recreation and tourism is great, but under-recognised and under-utilised at present. The natural and cultural attractions are many, varied, widespread across the area and highly appealing. Some features (e.g. Lost City, Carne Creek gorge, New Hartley mining heritage, Wolgan Valley Rail Trail) have the potential to become iconic attractions. A number of easy wildlife viewing opportunities exist and several Aboriginal heritage experiences are available. This basic resource of varied opportunities is enhanced by a high level of accessibility and large areas of relatively gentle terrain.

Compared to the adjacent Greater Blue Mountains World Heritage Area (GBMWhA), GoS2 is more disturbed and more accessible with roads. Recreational activities can be widely dispersed to numerous places and already-disturbed sites are available for more intensive use. Many of the popular GBMWhA visitor sites along the Great Western Highway corridor are constrained by geography: wedged between urban areas on one side and challenging terrain on the other. Attractions are widely spread and the few vehicle-based camping sites (Euroka, Ingar, Murphys Glen, Perrys Lookdown), although attractive locations, offer limited experiences without driving some distance through urban areas to reach other opportunities.

Public use of the existing Gardens of Stone National Park is low-key, with limited vehicle access, very few facilities and a low public profile. GoS2 has the potential to complement the more rugged world heritage area by presenting less daunting Blue Mountains bushland which is more readily accessible by vehicle and for visitors without specialist bush skills. The GoS2 area has not yet achieved this potential for three interconnected reasons:

- the aesthetic, conservation and nature recreation values of the area have not yet been widely recognised and appreciated;
- incompatible and off-putting activities currently dominate, and
- the area has not been presented or promoted to the public.

All this can be changed by implementing the GoS2 reserve proposal and advancing the recommendations of this report. With the right presentation and promotion, environmentally benign recreational use of GoS2 can be expanded dramatically. It is easy to imagine an integrated network of camping sites, 2WD and 4WD touring routes, identified cycle routes, walking tracks, lookouts, heritage attractions and interpreted features, coupled with good information and effective publicity. Just two hours from Sydney centre and with all the services any visitor could need in adjacent towns, GoS2 could become an iconic venue for campers, bushwalkers, tourers, cyclists and nature and heritage enthusiasts. This suite of opportunities creates a sound basis for commercial tourism enterprises such as guided tours and local accommodation.

Although providing for these recreational activities will have some localised impacts, a number of already-disturbed sites can be utilised. Furthermore, the likely impacts are minor when compared to the existing and future impacts of the current recreational regime.



Walker, pagodas and flowering *Calytrix tetragona*

5 Proposed Recreation and Tourism Plan

5.1 Principles

The following principles have been followed in developing this plan:

- Protection of natural and cultural heritage is the over-riding management objective of the GoS2 proposal; ecologically sustainable recreation and tourism must be a compatible subsidiary objective.
- All recreation should be of a style, impact and intensity suited to a national park and/or state conservation area, and consistent with the types of recreation typically supported in other such reserves.
- All promoted recreation will be based on the enjoyment and appreciation of natural and cultural features in an ecologically sustainable manner.
- The objective is to provide readily accessible recreational opportunities for unskilled visitors. A significant level of skilled natural area recreation (bushwalking, canyoning, rock climbing) will continue to occur without being specially provided for.
- Some disturbed areas of the proposal can support more concentrated visitor use than the undisturbed bushland, without producing increased impacts.
- Visitor use should be based around designated campsites where possible, to enable visitors to enjoy the area for more than a day while minimising car travel. Camping accommodation can be supplemented by roofed accommodation in nearby centres.
- The campsites should be positioned to provide ready access to a range of different experiences, which can be accessed by foot, bicycle and vehicle.
- Recreational experiences should cater for both day visitors and camping visitors, where possible.
- Recreational experiences should appeal to a wide range of nature and heritage-oriented visitors.

- Recreational experiences should be spread across the area and consistent with the primary conservation objective.
- The overall plan should be relatively low cost to implement, with a low level of new environmental impacts.
- The plan will emphasise opportunities for vehicle touring (2WD mainly, with some 4WD), bicycle touring, camping, bushwalking, sightseeing, picnicking, cultural heritage experiences and study of natural and cultural heritage.

5.2 Standard assumptions

The following assumptions apply to all recreational proposals and are not repeated in the following text:

- Any formalised visitor use of Aboriginal sites will require the approval and active engagement of the Aboriginal community.
- Heritage studies and conservation management plans may need to precede any promotion of visitor access to sites of Aboriginal and historic heritage.
- Any new facilities will be subject to detailed planning and environmental assessment.
- All proposed new facilities would include directional signposting.
- All proposed camping sites and some other facilities would include information/interpretation displays.
- Private vehicle is likely to be the primary means by which visitors will access GoS2.
- Cycling should be encouraged as an important secondary means of access, as a means of moving around the area and as a recreational activity in its own right.

Proposals for recreation opportunities are presented below on a precinct basis. Refer to maps for locations. In relation to new facilities, the emphasis is on the northern sectors of GoS2 because the southern sectors are already provided with a range of visitor facilities. The primary need in the southern areas is for improved management and presentation.

5.3 Airly-Genowlan mesas

This is a spectacular area with good access, impressive lookouts and pagodas, diverse vegetation and very interesting cultural features (some on private lands) associated with the Torbane/New Hartley oil shale works. It is the most remote part of GoS2 from the major visitor catchment of Sydney. A medium level of visitor use is proposed, including day and overnight visits. Proposals are shown on Map 2.

Existing access:

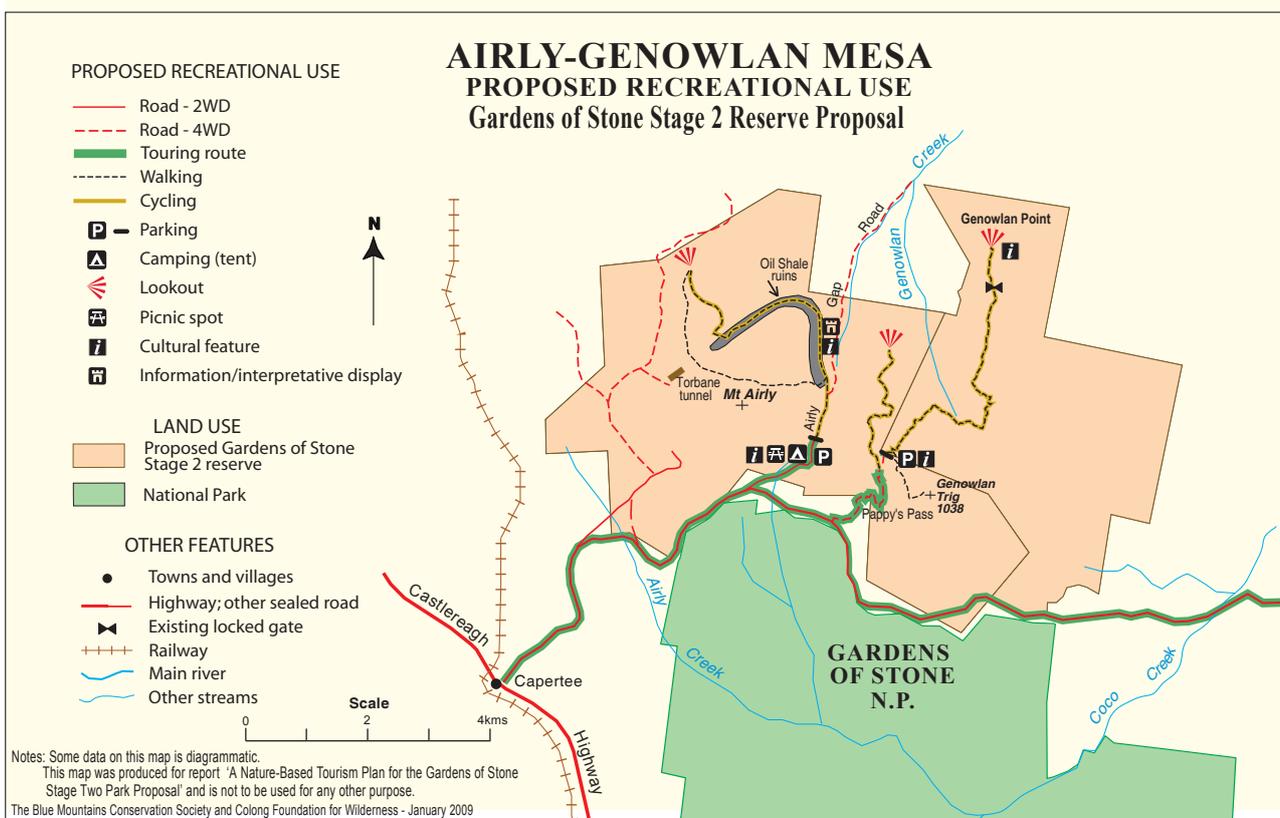
- The sealed Glen Davis Road skirts the southern edge of the proposal (and the northern edge of the existing GoSNP). It is part of the Dunns/Capertee Discovery Trail (Greater Blue Mountains Drive).
- 2WD, dry-weather, gravel road over Airly Gap.
- 4WD road (difficult) from just north of 'Rock Bottom' to Mt Airly plateau.

- 4WD road (difficult) from Airly Gap road through New Hartley heritage precinct to a saddle on the ridge north of Mt Airly.
- 4WD roads (difficult) through Pappys Pass to various points on Genowlan Plateau - Point Hatteras, Genowlan Trig and Genowlan Point (very difficult, gated c. 2km from Genowlan Point).

Existing facilities:

- A very informal walking route through The Grotto on Genowlan Plateau.
- Informal camping areas near the communications tower and the hut on Genowlan Plateau.

Map 2. Proposed Recreational Use: Airly-Genowlan Mesas



Proposed facilities and recreation management:

- Vehicle access: close the Airly Gap road to public vehicles (landholder and management access would need to continue) immediately north of the gap. Close the Genowlan Plateau road to public vehicles at the top of Pappys Pass. Provide parking at both locations.
- Camping: establish a low-key camping and day use area (parking, vehicle control, toilets, information display, no water) on the cleared grassy flats immediately north of Airly Gap (head of Gap Creek).
- Walking: mark and clear a 10km/full day circuit walk from the Airly Gap camping area. The track would commence via the existing road up Mt Airly and finish back along the New Hartley road from the saddle on the ridge north of Mt

- Airly. It would take in the Mt Airly plateau, the pagodas on the north-western flank of the plateau (and associated lookout), the ridgeline extending northwards to the second saddle (and another lookout) and the New Hartley heritage precinct.
- Walking: promote the existing vehicle trails to Point Hatteras (lookout) and Genowlan Point (lookout) as walking routes, as well as the informal route through The Grotto (subject to safety assessment).
 - Cycling: promote mountain bike use of the New Hartley road, through the heritage precinct to the saddle north of Mt Airly, and the Point Hatteras and Genowlan Point trails.
 - Cultural sites: promote exploration of the New Hartley heritage precinct.
 - Information: install information/interpretation shelters at the Airly Gap camping and day use area and at the top of Pappys Pass. Install on-site interpretation in the New Hartley heritage precinct and at Genowlan Point.
 - Vehicle touring: promote Airly Gap and associated experiences as a stop along the Dunns/Capertee Discovery Trail.

5.4 Ben Bullen and Wolgan State Forests

The pagoda landscapes of this sector of the GoS2 proposal are impressive but opportunities for visitor facilities are limited. The area is mostly difficult of access (4WD only) and severely affected in places by mining subsidence impacts. Easier 2WD access leads north from the Wolgan Road along Long Swamp on the Coxs River headwaters. Most of the area is proposed as a low use area for visitors. Most visits would be day based and transitory. Proposals are shown on Map 3.

Existing Access:

- The Castlereagh Highway skirts the western edge of this part of the proposal.
- A 4WD road connects Ben Bullen village to the Wolgan Road near Wolgan Gap. On the way it traverses part of the existing GoSNP, Baal Bone Gap and part of the Great Dividing Range.
- A number of other 4WD roads provide access to Gardiners Gap and other locations.

Existing facilities:

- The Bicentennial National Trail follows the 4WD road from Baal Bone Gap to near Wolgan Gap, with an informal campsite (no facilities) one kilometre south of Baal Bone Gap.
- NPWS maintains a small picnic area at Baal Bone Gap.
- An informal vehicle-based camping area (no facilities) has been used beside the track at Long Swamp, 2km from the Wolgan Road.

Proposed facilities and recreation management:

- Vehicle access: retain the major 4WD roads and the 2WD section along Long Swamp as public access.

- 4WD touring: allow continued access along the main through trail from Ben Bullen to Wolgan Gap and Long Swamp, and the branch trail towards Cape Horn (see below).
- Camping: establish a low-key camping and day use area (parking, vehicle control, toilets, information display, no water) on the eastern side of the Long Swamp road, about 2 km in from (north of) the Wolgan Road.
- Walking: close the final kilometre of the 4WD trail towards Cape Horn and establish a parking and picnic site. Promote the walk out to the Wolgan Valley escarpment lookout.
- Picnicking: establish a picnic area at the informal campsite beside the road on upper Baal Bone Creek (parking, tables, toilet).
- Cycling: promote the use of all suitable retained roads for cycle touring.
- Information. Install information/interpretation shelters at the Long Swamp camping and day use area and at the Cape Horn carpark.

5.5 Newnes Plateau

This is the most extensive and diverse sector of GoS2, with large areas of undulating plateau, dramatic escarpments, pagodas and gorges and plenty of vehicle access. Vegetation is varied and includes a number of rare species and communities. Some fine examples of Aboriginal and historic heritage are present. Some parts are subject to mining subsidence impact and a variety of surface mining infrastructure exists.

The Newnes State Forest part of GoS2 adjoins the existing GoS, Wollemi and Blue Mountains national parks, with access to those areas being through the state forest. The recreational opportunities of the plateau integrate with a number of well established attractions nearby. Newnes Plateau is readily accessible from main roads and Lithgow and due to its size and undulating terrain can sustain a higher level of visitor use. The objective is to encourage multi-day visits. Proposals are shown on Map 3.

Existing Access:

- Chifley Road skirts the southern edge of the proposal.
- The Glow Worm Tunnel Road, a 2WD gravel road, traverses the plateau from Lithgow (State Mine Gully Road) to the tunnel. It forms most of the Newnes Plateau Discovery Trail.
- A 2WD gravel road connects Chifley Road at Clarence to the Glow Worm Tunnel Road (Old Bells Line of Road, also part of the Newnes Plateau Discovery Trail).
- A 2WD gravel road leads from Glow Worm Tunnel Road to the abandoned Newnes Afforestation Camp.
- A network of constructed 4WD roads provides access to most parts of the plateau. Major routes include Old Bells Line of Road-Blackfellows Hand Trail, Waratah Ridge and Sunnyside Ridge.
- One 4WD route across the Wolgan River (the Spanish Steps) is managed as a controlled access 4WD route (locked gates accessible with permission).
- An extensive network of illegally created single-track motor bike routes exists, especially in the southern part of the plateau.

Existing facilities:

- Bungleboori picnic and camping area, on the Glow Worm Tunnel Road near the centre of the plateau, is managed by Forests NSW.
- Blackfellows Hand Aboriginal site (now an Aboriginal Place) is popular but has no facilities other than an informal parking site and a visitors' book.
- Nearby facilities in adjoining national parks include the Glow Worm Tunnel (parking area, picnic area, walking track and historic features) and Deep Pass (walk-in camping area and Aboriginal art site).
- The Lost City is a well known and spectacular collection of pagodas with no facilities other than road access (easy 4WD) and a parking site.
- A small block of private land in the south of the plateau is used as a moto-cross circuit.
- The Zig Zag Railway is a major tourist attraction on Chifley Road close to the southern edge of the precinct. It provides parking, a picnic area, toilets, kiosk and information.
- A number of cultural heritage attractions exist in Lithgow adjacent to the south-western edge of the precinct (e.g. State Mine Heritage Park).

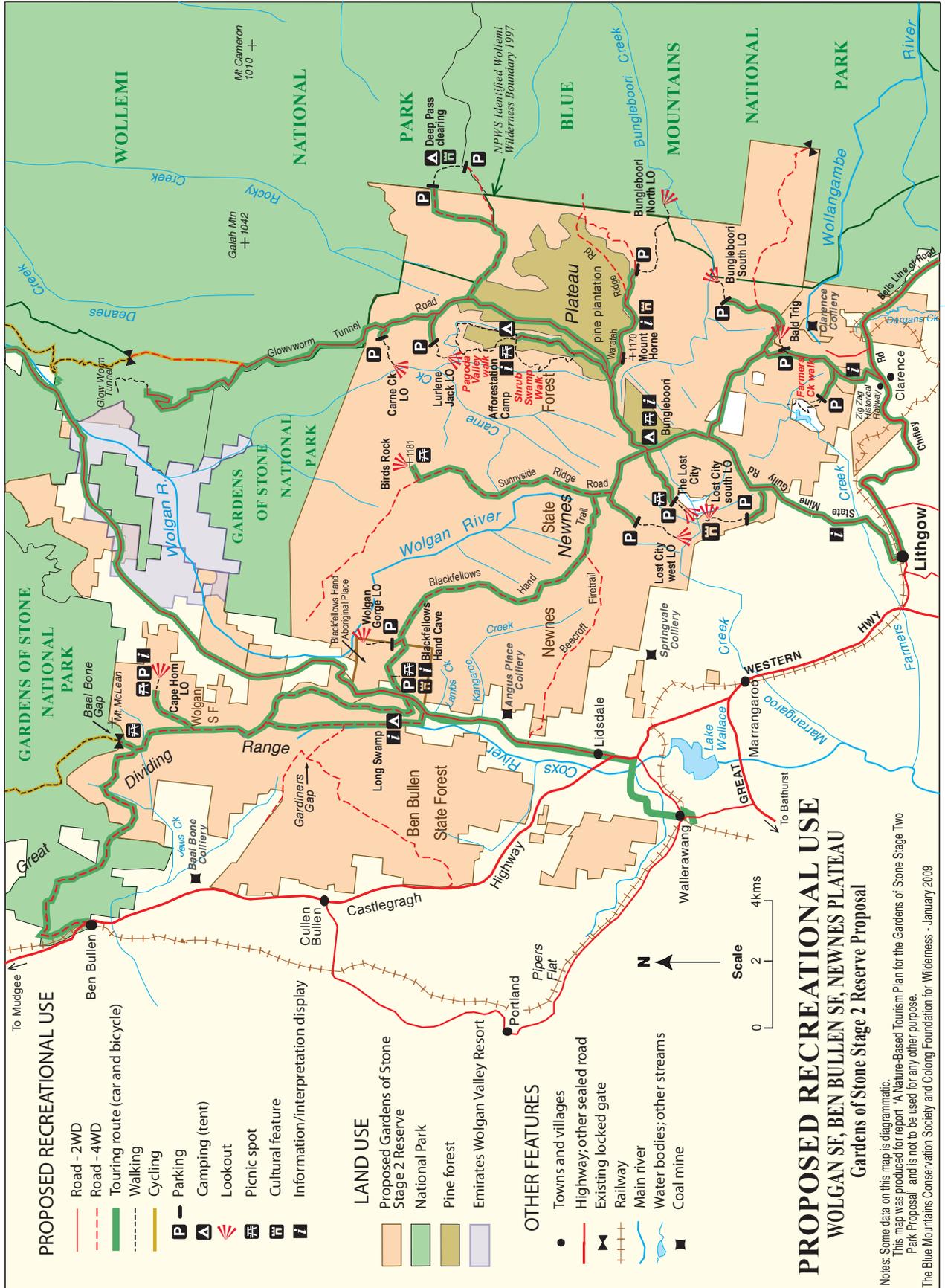
Proposed facilities and recreation management:

- Vehicle access: retain the major 4WD roads and a number of minor trails that provide access to natural and cultural features.
- 2WD touring: continue to promote the Newnes Plateau Discovery Trail from Zig Zag Railway to Lithgow and the Glow Worm Tunnel. Incorporate additional features along the road as listed below. Maintain the 2WD access to the old Newnes Afforestation Camp. Upgrade access to the Lost City to 2WD (to the existing barrier).
- 4WD touring: maintain Blackfellows Hand Trail and Sunnyside Ridge as 4WD touring routes.
- Camping: provide formalised camping and picnic areas at Bungleboori (already exists) and the old Newnes Afforestation Camp. Provide parking, vehicle control, toilets and tables. Prohibit vehicle-based camping at other places. Fence one of the dams as a water supply and allow swimming in the other dam.
- Birdwatching: establish a bird hide and interpretive sign (waterbirds) at the fenced dams at the old Newnes Afforestation Camp.
- Walking: promote the existing walking tracks just outside GoS2 to Glow Worm Tunnel and Deep Pass.
- Walking: establish two walking tracks from the proposed campsite at the old Newnes Afforestation Camp:
 - a 6km/half day 'Pagoda Valley' walk north along the main creek downstream of the dams, around above 'Alcatraz Falls' to the trail near the old abseiling site and back to the camp along forest roads;
 - a 5km/half day 'Shrub Swamp' walk along forest roads south and west to a branch of Carne Creek, along the edge of the shrub swamp and back to the

camp along forest roads. This would feature the spectacular spring wildflowers.

- Walking: establish a 5km/half day walk along trail bike tracks past the main dam on Farmers Creek.
- Walking: establish nine short walks to lookouts by closing 4WD access roads a short distance back from their termini (0.5 to 2 km – on the flatter part of the plateau), providing parking space and maintaining them to 2WD standard if possible. Either allow the remaining distances to revert to walking tracks or clear and mark a walking track along an alternative route.
 - ‘Carne Creek Gorge Lookout’ from Fire Trail No. 3 (add to Discovery Trail);
 - ‘Lurlene Jack Lookout’ from Fire Trail No. 2 (add to Discovery Trail);
 - ‘Bungleboori Northside Lookout’ south of Waratah Ridge Road;
 - ‘Bungleboori Southside Lookout’ north of Old Bells Line of Road (add to Discovery Trail);
 - Bald Hill Lookout (add to Discovery Trail);
 - Lost City pagodas (access already withdrawn) with picnic area (add to Discovery Trail);
 - ‘Lost City South Lookout’ (and old mine – see below) off State Mine Gully Road (immediately south of dam in Marrangaroo Creek) (add to Discovery Trail);
 - ‘Lost City West Lookout’ and pagodas off Old Bells Line of Road (Blackfellows Hand Trail, south of pumping station);
 - ‘Wolgan Gorge Lookout’ on spur west of ‘Temple of Doom’ spur (note this may fall within the new Aboriginal Place and be subject to an appropriate decision-making and management process);
 - Birds Rock (with picnic area).
- Aboriginal heritage (subject to Aboriginal approval): construct a formalised carpark, picnic area, walking track and site protection at Blackfellows Hand Cave. Construct protective access (boardwalk?) at Mt Horne Aboriginal site. Install interpretive signage at both sites.
- Historic heritage: promote and interpret the existing rough track from ‘Lost City South Lookout’ to the old mine in Marrangaroo Creek.
- Cycling: re-establish the abandoned Wolgan Valley Railway alignment as a rail trail cycling route from Newnes Junction to Newnes. Promote a connection from Lithgow via State Mine Gully Road. Promote all other suitable routes on the plateau for cycling. Promote cycling as the ideal way to move around the plateau from the proposed campsites and to access walking/lookout opportunities. Promote access to the plateau by train and bicycle.
- Information: install information/interpretation shelters at both camping areas and on the two major access roads into the area (Old Bells Line of Road and State Mine Gully Road).

Map 3. Proposed Recreational Use: Wolgan State Forest, Ben Bullen State Forest & Newnes Plateau



5.6 Hassans Walls

The relatively small plateau of the existing Hassans Walls Reserve is an outlier of Newnes Plateau and lies immediately adjacent to Lithgow. It has good access and a range of existing facilities. It is suited to day activities only, and a high level of visitor use. Parts are subject to mining subsidence impacts.

Existing Access:

- From Lithgow Browns Gap Road and Hassans Walls Road provide 2WD gravel road access to the plateau.
- Several other 2WD gravel roads lead to a number of lookouts and communication towers on the plateau.

Existing facilities:

- Hassans Walls Lookout and Braceys Lookout have picnic shelters and toilets.
- A variety of informal walking and mountain bike tracks exist.
- The Central Tablelands Mountain Bike Club uses the area extensively for both training and competitions.

Proposed facilities and recreation management:

- No additional facilities are proposed.
- There is a need for improved management of the lookout facilities and the installation of information/interpretation panels.



Rimacola elliptica (rare plant)

5.7 Western Escarpment (Dargan to Medlow Bath)

This complex sector comprises several discontinuous bushland areas along the west-facing escarpment. Vegetation is very diverse, ranging from heathland to rainforest, and includes a number of threatened species. Most of the land is Crown reserve of long standing and a variety of facilities exist. The area is also used extensively for informal and commercial rockclimbing and abseiling. A number of cultural heritage sites are associated with early roads over the Blue Mountains, mining for coal and oil shale and early tourism development (walking tracks and lookouts). Although two sites are used for camping, most of the area is better suited to day use. Localised parts of the area are subject to a high level of visitor activity.

Existing Access:

- The Great Western Highway, Darling Causeway and Chifley Road skirt the eastern edge of the proposal.
- Subsidiary 2WD roads (sealed and gravel) provide access to Mt York, Mt Piddington, Centennial Glen, Shipley Plateau and Blackheath Glen.

Existing facilities:

- Four tracks associated with historic crossings of the escarpment near Mt York (Berghofers Pass, Coxs Road, Lockyers Road, Lawsons Long Alley). These are also used by MTB cyclists.
- A picnic area, various monuments, a toilet (new), several lookouts and two short walking tracks at Mt York.
- Road-accessible lookouts/picnic areas at Mitchells Ridge, Mt Piddington, Hargreaves Lookout and Mt Blackheath Lookout.
- Walking track networks at Mount Victoria, Centennial Glen, Blackheath Glen and Medlow Bath.
- Campsites/picnic areas at Mt York and Blackheath Glen.
- Several fire trails are also used for walking and cycling, e.g. Hourne Point Trail.

Proposed facilities and recreation management:

- No additional facilities are proposed, but there is a need for improved management of the lookout facilities and the installation of signage and information/interpretation panels.
- The Mount York Plan of Management (Gondwana Consulting 2008) proposes a number of new or improved facilities, including formalising a short-term camping area and a new walking track below the cliffs.
- Recreational use of the Dargan Creek area includes swimming, rockclimbing, walking, picnicking and canyoning but presents a number of unresolved management issues including vehicle access and public safety.



Old sandstone house, New Hartley

6 Touring Opportunities

From other comparable areas it can be expected that the majority of nature-based tourists who visit GoS2 will be self-drive independent tourists. This market segment is particularly interested in touring routes that provide a variety of experiences, coupled with good information and presentation, and good nearby services such as accommodation.

This recognition has led to the recent development of major touring routes around Australia, such as the Great Ocean Road (Victoria), the Great Tropical Drive (Queensland) and the Greater Blue Mountains Drive. Although these drives tend to be based on major main roads, partly in recognition of the constraints on 2WD hire cars, they also have strong ‘dirt road’ components (on public access roads) offering more adventurous options.

6.1 Enhancing the Greater Blue Mountains Drive

The Greater Blue Mountains Drive incorporates 18 ‘Discovery Trails’, most of which involve unsealed roads for all or part of their length. There is a recognition in the market that in the Australian context it is necessary to use unsealed roads to reach many of the best experiences, and that they don’t need to be daunting for those who own their own vehicle or who have hired a 4WD.

The main circuit of the Greater Blue Mountains Drive follows the western edge of the GoS2 proposal, along the Great Western Highway or Bells Line of Road and the Castlereagh Highway. Four Discovery Trails are closely integrated with the GoS2 area and incorporate key attractions in the existing national parks /GBMWA:

- Blackheath/Megalong Discovery Trail (taking in the Shipley Plateau lookouts and Blackheath Glen);
- Wolgan Valley Discovery Trail (from Lithgow to Newnes);
- Newnes Plateau Discovery Trail (from Clarence to Lithgow then the Glow Worm Tunnel and back to Lithgow);

- Dunns/Capertee Discovery Trail (from Capertee to Dunns Swamp via Glen Davis).

These Discovery Trails are described in detail in GBM Drive collateral, including a guidebook and separate brochures for each Trail which are available as hard copy or from the website.

These touring routes and their collateral can be greatly enhanced by adding in the experiences and opportunities described in section 5 above. For instance, the Newnes Plateau Discovery Trail would be enhanced with up to 7 new short walks to lookouts, an Aboriginal heritage site and a wildlife viewing experience (bird hide) – all of which are only short diversions off the main route. So instead of a long drive with two or three major features/stops, it becomes a much more absorbing experience that could easily be spread over two or three days.

On a smaller scale, the Dunns/Capertee Discovery Trail would be enhanced with a major new experience based on the Airly Gap campsite, including walks and historic heritage. Those with a 4WD could add in the Genowlan Plateau walks.

6.2 A ‘Gardens of Stone Grand Tour’

Apart from augmenting existing touring routes, the plan presented here also offers the opportunity to promote a ‘Gardens of Stone Grand Tour’, specifically for those travelling by 4WD or mountain bike. The basic route would travel from Lithgow to Zig Zag Railway and through to Ben Bullen (or reverse) via Bungleboori, Blackfellows Hand, Long Swamp and Baal Bone Gap – a distance of some 40 km – and back to Lithgow. Major diversions could include the Glow Worm Tunnel and Newnes/Wolgan Valley, with shorter side-trips to Birds Rock and numerous other lookouts.

A number of shorter tours could also be presented, taking in a selection of the attractions.



Sprengelia monticola (rare plant)



Tree ferns in tall open forest

7 Commercial Opportunities

7.1 Tours

The suite of recreational experiences presented here provides a sound basis for a range of commercial opportunities. These could include vehicle tours by small bus and 4WD (even if conducted on 2WD unsealed roads) and guided walks.

For example, the ‘Gardens of Stone Grand Tour’ (section 6.2 above) could be offered as a 4WD commercial tour over one to three days, depending on how many diversions and walks were included. Accommodation along the way could range from self-contained camping options to small guesthouse or other hard-topped options in nearby towns.

Another possible experience could be based on walking. Several of the proposed walks offer a half-day to full-day trip out of Lithgow or another centre. These include the Airlly Mountain walk, and the Pagoda Valley and Shrub Swamp walks on Newnes Plateau. Another day tour could take in several of the shorter walks to lookouts and a picnic lunch.

Another trip could link several of the wildlife experiences on Newnes Plateau, from early morning birdwatching to spotting kangaroos to the waterbird viewing hide, and finishing with an evening spotlight to see gliders and possums.

Yet another alternative is the cultural tour, focusing on either Aboriginal places or early mining history. Of course any combination of these many options could be worked into coherent tours. The possibilities are numerous and diverse.

Although the options for one-day tours into GoS2 out of the central Blue Mountains are constrained by time, this is not such an issue for tours originating in Lithgow and other centres closer to the area. A tour which goes from the central Blue Mountains to the Glow Worm Tunnel has only very limited time to take in other attractions, even those only a short distance off the main route. However a tour originating in Lithgow could easily take in a number of other features including a return via Blackfellows Hand Trail.

7.2 Accommodation

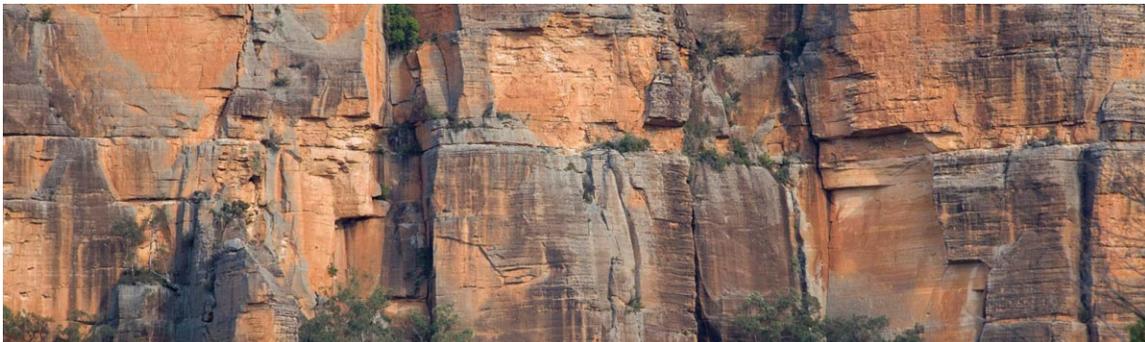
It is reasonable to expect that if GoS2 is protected, managed and presented as a conservation area, then it will attract the sorts of new accommodation that have sprung up adjacent to many other comparable attractions. Examples include the many ‘eco-oriented’ resorts and guesthouses in the main Blue Mountains, those near Warrumbungle National Park and many on the north coast.

More relevant to the local situation are facilities that have appeared in the Capertee Valley, partly to cater for birdwatchers, and those around Lake Lyell which are mainly a response to the scenic setting. The Emirates resort in the Wolgan Valley is another important example. Its very existence, profile and marketing power is a singular demonstration that this is a landscape to be taken seriously as a national and international tourist attraction.

Prime off-park locations that combine an appealing setting with proximity to the park attractions and possibly also off-park attractions are typically sought for low-key, nature-based accommodation developments. For the GoS2 area such qualities can be found in the Clarence-Dargan area (where such lodges already exist), in the Hartley Valley (existing B&Bs) and in the Angus Place valley. These locations are well placed to take advantage of the many tour options that would exist in GoS2.

7.3 Barriers to tourism development

The question could well be asked, if the potential is so great then why is no-one exploiting it? The answer lies mainly in profile and presentation, combined with negative aspects of current recreational use. No paying customer wants to share their bush campsite, quiet walk or Aboriginal cultural experience with the noise and disturbance of motor bikes. No-one wants to stay at an ‘eco-lodge’ where the main attraction is poorly-managed and disturbed bushland. But more importantly, the area awaits both the profile that the ‘national park’ cachet brings, and also the presentation of it as a spectacular natural region that would follow.



Sandstone cliffline



Wildflowers and sandstone cliff

8 Marketing and Promotion of GoS2

Identifying or creating a suite of recreational experiences across GoS2 is only part of a larger process. If the area is to achieve its potential as an appealing and popular outdoor recreational precinct making a significant contribution to local economies, then it needs to be presented and promoted in a positive and vigorous way.

The ‘Gardens of Stone’ identity provides a head start: it is a perfectly apt yet highly evocative description of a remarkable and unique landscape. ‘Newnes Plateau’ is hardly an inspiring label, but presenting it as ‘The Gardens of Stone’ will grab attention. It is an appealing promotional name that can be evolved into a powerful ‘brand’, especially if used with the compelling imagery that the area offers.

As the side of the Blue Mountains more distant from the hurly-burly of Sydney, GoS2 can also be presented as the ‘other side’ of the region. GoS2 has a more peaceful and ‘country’ ambience and will never feel as trammelled and crowded as the Great Western Highway corridor. It is suggested that the area be promoted as ‘The Gardens of Stone – the other side of the Blue Mountains’.

A synergy can be created between GoS2 and the Greater Blue Mountains Drive. The Dunns/Capertee, Wolgan Valley, Newnes Plateau and Blackheath/Megalong Discovery Trails can be utilised as an access framework for GoS2, while GoS2 can increase the range and number of experiences along the trails – noting that the Blackheath/Megalong route already integrates key GoS2 attractions.

As well as integrating GoS2 into wider marketing programs for the GBMWhA and surrounds, there is potential for discrete presentation of the area. This could take the form of a ‘Gardens of Stone’ tourist map and/or guidebook and website.



Ironstone and pagoda



Carne Creek gorge

9 Economic Assessment

9.1 Introduction

Economics is primarily concerned with the allocation of scarce resources – land, labour, and capital – to maximise the welfare of the community. The purpose of economic analysis is to determine whether a proposed project or policy will deliver benefits to society that exceed any costs. The main method for making this determination is benefit cost analysis (BCA).

BCA involves the following key steps:

- identification of the base case;
- identification of the options and their implications;
- identification and valuation of the incremental benefits and costs;
- consolidation of value estimates over time using a discount rate;
- sensitivity testing of physical and value assumptions;
- application of decision criteria such as net present value, benefit cost ratio and internal rate of return; and
- consideration of non-quantified benefits and costs.

Where the aggregated benefits of a project or policy to the community exceed the aggregate costs to the community, the project or policy is considered economically efficient and desirable on economic grounds. Where there are a number of alternatives, the project or policy that provides the greatest net benefit is preferred. Consideration of the regional economic stimulus that a project may provide to the economy is also of relevance to decision-makers.

This section of the report considers both the net benefits of the GoS2 proposal to the community using BCA and the likely regional economic impact of the proposal.

9.2 Benefit cost analysis

9.2.1 Introduction

Table 1 outlines the potential economic costs and benefits of the GoS2 proposal, relative to the continuation of the existing and potential land uses of native forestry and sand mining. Trail bike activities were omitted from the analysis because of their illegal nature. However, the proposal may actually lead to a decrease in this illegal activity, representing another benefit of the proposal.

Table 1: Potential Economic Costs and Benefits of the GoS2 Proposal

Economic Costs	Economic Benefits
Park establishment	Recreation benefits - entry/camping revenue - consumer surplus
Park operating costs	Conservation values
Opportunity cost of native forestry	Forestry management cost saving
Opportunity cost of sand mining	

9.2.2 Economic costs

Park establishment would involve the cost of providing additional visitor infrastructure in the area including camping areas with toilets, information displays, interpretative direction signage, marked/cleared tracks, trail barriers, picnic areas, bird hides and visitor publications. These capital costs are estimated at \$370 000.

There would also be ongoing park operating costs that are estimated at \$150 000 pa.

The GoS2 proposal would also involve some displacement of existing uses, in particular, native forestry. Forests NSW has advised that:

- sawlog yield for the area is not prescribed, however, the current sawlog allocations over recent years have varied between 800 and 1,500 m³ per annum depending on markets and the weather/season.
- Mining timber has a prescribed yield of 3 300 m³ per annum for Newnes and 800 m³ per annum for Ben Bullen.
- Domestic firewood is also obtained from the forests each year, however no volumes are provided.

An indication of the economic value of this forest resource is given by the royalty associated with it, particularly where royalties are determined based on a residual pricing model, which is the case with Forests NSW timber resources.

Forests NSW has advised that royalty varies depending on species, log/product size and quality class and distance to mill and market. Specific royalties are commercial-in-confidence and cannot be released. However the Forests NSW 2007-08 annual report indicates that the average royalty (for both sawlogs and pulplogs) across the Forests NSW

estate is in the order of \$29/m³, although this is likely to understate the value of sawlogs. For the purpose of this analysis a royalty value of \$50/m³ has been used.

No value for foregone firewood has been included in the analysis because of the absence of annual volume information.

The State Conservation Area tenure within the GoS2 proposal allows for ongoing coal mining and associated surface activities within existing mining lease areas. Consequently, the proposal would have no opportunity cost associated with coal mining.

However, the Newnes Plateau area has been identified as a potential source of friable sandstone, suitable for processing to yield of range of constructions sands. Consequently, if the proposal were to sterilise this sand resource there may be an opportunity cost to society. This would depend on the nature of the resource, the profitability of extraction, the likely timing of any extraction in the future and the probability that extraction would actually occur. In this respect it should be noted that the two existing sand mines and the one sand/kaolin approval would not be compromised by the GoS2 proposal.

While the Department of Mineral Resources has identified a broad footprint within which an exploitable sand resource might exist, only a small proportion of the broad footprint has zones of deeply weathered friable sandstone that may contain commercially significant deposits. Even then, there would appear to be both commercial and environmental constraints to any future extraction. Commercial constraints include the costs of double handling the transportation of the sand resource from within the plateau to the Sydney market (i.e. the need to transport the resource by road to the existing rail loop) as well as insufficient prices to make extraction commercially viable. Consequently, any extraction of the sand resource on the Newnes Plateau that does occur is only likely to occur well into the future when the commercial environment may become more suitable, e.g. through rising prices as a result of increasing scarcity of construction sand. However, it should also be noted that as natural sands become more expensive as a result of scarcity, alternatives such as recycling of construction material would also become increasingly viable.

Environmental constraints include the unique vegetation communities of the Newnes Plateau and contiguity with the adjacent Blue Mountains National Park and Wollemi National Park which form part of the Greater Blue Mountains World Heritage Area.

Social constraints include the noise and increased likelihood of road accidents associated with truck movements, as well as the noise, visual effects, and chemical and dust pollution associated with excavation, treatment plant and waste disposal.

These environmental and social constraints impact on the probability that any extraction would occur at all in the future. Taken together, commercial constraints and environmental/social constraints mean that the opportunity cost of the GoS2 proposal in relation to the sand resource is likely to be very modest and may even be close to zero.

9.2.3 Economic benefits

One of the main benefits of the GoS2 proposal relates to increased tourism and recreation.

In a study of Victorian Box-Ironbark parks, Dumsday (2001) estimated the likely increase in visitation based on the establishment of Grampians National Park and Murray-Sunset National Park - two cases where land had changed tenure from state forest to national park.

After the declaration of Grampians National Park (in 1985) visitor numbers jumped by about 30 per cent – from a two-year average of 1.12 million visitor days to an 11-year average of 1.50 million. When Murray-Sunset National Park was declared in 1991, visitor numbers increased 233 per cent from an average of 12 000 per year to an average of 27 200. The effect of increasing population was removed from both these calculations.

Victoria recently announced it will reserve 90 000 hectares of new River Red Gum parks along the Murray River corridor. The Victorian Environmental Assessment Council (VEAC) commissioned Gillespie Economics *et al.* (2008) to undertake a detailed economic study into this proposal. This report stated, based on Dumsday’s work (2001), that a change in status from state forest or state park to national park is likely to increase visitation in most cases. The precise scale of change depended on a variety of factors including:

- accessibility to major markets;
- nature of the scenic resource;
- presence of key attractors (including well-known natural or cultural heritage attractions);
- potential activities available for visitors;
- existing level of investment in surrounding tourist facilities; and
- expenditure by park managers on facilities and promotion.

The first four of these factors relate to the basic resource with the remaining two reflecting product development. GoS2 ‘ticks the boxes’ of all four resource factors, as follows:

- | | |
|--|---------|
| • accessibility to major markets | YES |
| • nature of the scenic resource | STRONG |
| • presence of key attractors (including well-known natural or cultural heritage attractions) | YES |
| • potential activities available for visitors | DIVERSE |

Given this strength of basic product, GoS2 also has great potential to satisfy the other two factors related to reserve development.

While the area has high visitation potential, much depends on how that potential is developed and promoted. The visitor profile of the area, if presented as proposed, is split into two discrete regions: the Western Escarpment and the rest. The Western Escarpment is readily accessible and is likely to receive much higher visitor levels, but many visits will be brief and limited in scope. The more remote remainder of the area is likely to receive lower numbers but more in-depth visits.

It can be noted that Blue Mountains National Park is reported to receive four million visitors a year, making it the most visited national park in NSW. This park has multiple entrances and a great variety of precincts. Many visits (e.g. to Echo Point) are perfunctory. The Zig Zag Railway, a major attraction adjacent to GoS2, carried 73 000 passenger sin 2008 (Zig Zag Railway, pers. comm. 2008).

Visitation for a number of other nearby national park areas can provide some comparison for potential GoS2 visitation. Dunns Swamp, a highly appealing but quite remote camping and water activity site in western Wollemi National Park, receives about 25 000 to 30 000 person-days per year, of which some 40 per cent to 50 per cent are day visitors (DECC pers. comm. 2008). Visitor numbers are growing.

Coolah Tops National Park is a remote, low-key park which receives some 7 000 to 8 000 visitors a year, mostly from the Central West area (DECC pers. comm. 2008). Visitation seems to be static.

Kanangra-Boyd National Park is a mainly wilderness park some three hours drive from western Sydney. For the low-skilled visitor it offers one main car-based camping area, some 4WD opportunities and a few spectacular short walks. For the more expert visitor it also offers extensive wilderness walking opportunities. Visitation to the park has been estimated at 50 000 visitors per year, although recent traffic counts suggest this may be an over-estimate (DECC pers. comm. 2008).

Compared with all of the national park examples, GoS2 is closer to major visitor catchments (e.g. 1.5 hours drive from western Sydney) and also offers a wider diversity of recreational opportunities. Consequently, 50 000 visitors a year is considered to be a reasonable estimate, ramping up over a five year period.

The benefits of this increased visitation can take two forms:

- additional revenues to the management agency associated with user charges for entry, camping etc; and
- benefits to recreationists and tourists reflected in their willingness to pay above what they actually pay (consumer surplus).

For the purpose of this analysis it is assumed that revenues received for visitation/camping are minimal. However, there have been numerous studies that have used the travel cost method to estimate the value that visitors hold for visits to protected areas above and beyond what they have to pay for visits. Some of these are reported in Table 2. For the purpose of this analysis a value of \$30 per visit has been assumed.

Table 2: Recreation Values for Visits to NSW National Parks

National Park	Value per Visit	Reference
Minnamurra Rainforest, Budderoo National Park	\$28 - \$44	Gillespie (1997)
Dorrigo National Park	\$34	Bennett (1995) as amended in Gillespie (1997)
Gibraltar Range National Park	\$19	Bennett (1995) as amended in Gillespie (1997)
Baldrock National park	\$41	Gillespie Economics (2006)
Boonoo National Park	\$36	Gillespie Economics (2006)
Border Ranges National Park	\$30	Gillespie Economics (2006)
Gibraltar Range Nat. Park	\$25	Gillespie Economics (2006)
Nightcap National Park	\$35	Gillespie Economics (2006)
Washpool National Park	\$50	Gillespie Economics (2006)
Yuraygir National Park	\$30	Gillespie Economics (2006)

Arguably a vegetated area that goes from being managed as a forest resource to being managed for its conservation and recreation values would experience some increase in the level of protection afforded to it. The economic value of this increase in protection would be reflected in the community's willingness to pay for it. Some indication of the potential value of these non use benefits can be gauged from the results of the non market valuation studies reported in Table 3.

The Lockwood and Carberry (1998) study gives an indication of community value where the native vegetation would otherwise have been cleared which is unlikely to be relevant for most of the subject land.

The Van Bueren and Bennett study gives an indication of community value for farmland reparation and bush protection and so may be considered mainly relevant to revegetation.

The Rolfe (2008) study gives an indication of value where health of existing vegetation is improved. This is considered the relevant context for this study and hence the willingness to pay value of \$800/ha¹ has been applied to the area of Newnes and Ben Bullen State Forests (i.e. 29 800 ha excluding the softwood plantation).

There would also be some management cost savings associated with the proposal as Forests NSW would no longer be required to manage the forests. However, Forests NSW

¹ The annual willingness to pay for 20 years was discounted to a present value using a 7% discount rate and aggregated to 66% of the households of NSW and converted from "per 1% increase in area of vegetation in good health" to a payment per ha.

has not been able to provide an estimate of management costs for these forests. Consequently, they have been omitted from the analysis.

Table 3: Non-market valuation studies for native vegetation conservation

Reference	Vegetation value/ha	Other values
Lockwood and Carberry (1998)	\$607/ ha of native vegetation conserved that would otherwise have been cleared	\$3.6M for every extra native plant and animal species conserved in the region
		\$67M when use of native vegetation goes from extensive use to moderate use consistent with species conservation
Van Bueren and Bennett (2000)	\$450/ha of farmland repaired or bushland protected	\$44M per species protected from extinction
Rolfe (2008)	\$800/ha increase in vegetation that is in healthy condition	
Rolfe et al (1997)	\$7.5M per percentage reduction in the area of a unique ecosystem in the region	\$23.3M per endangered species lost from region
		\$3.4M per percentage reduction in the population size of non threatened species in the region
URS (2007)	\$200 000 per ha of rainforest protected	\$3.2M per breeding owl pair protected
	\$12 000 per ha of old growth protected	\$270 000 per individual Potoroo protected

9.2.4 Results

Based on these assumptions the GoS2 proposal is estimated to have net benefits of \$28M to \$38M, depending on the discount rate used and assuming negligible opportunity costs associated with the sand resource (refer to Table 4). These net benefits may represent a minimum value since management-cost savings to Forests NSW have not been included and the levels of timber production and royalties assumed may be conservatively high.

The results (assuming negligible opportunity costs associated with the sand resource) are most sensitive to assumptions regarding recreation and conservation values. Yet, even ignoring conservation values, or substantially reducing either the assumed visitation

levels or the economic value per visit, the conclusion is that the proposal would have a net benefit to the community.

Table 4: Economic Costs and Benefits of the GoS2 Proposal

	4%	7%	10%
COSTS			
Park establishment	\$758,483	\$610,939	\$516,045
Park operating costs	\$2,593,805	\$1,861,356	\$1,414,037
Opportunity cost of native forestry	\$4,841,769	\$3,474,532	\$2,639,536
Opportunity cost of sand mining	Modest to Nil	Modest to Nil	Modest to Nil
Total Costs	\$8,194,057	\$5,946,826	\$4,569,618
BENEFITS			
Recreation revenues	\$0	\$0	\$0
Recreation values in addition to revenues	\$22,815,291	\$15,659,045	\$11,338,668
Conservation values	\$22,923,077	\$22,280,374	\$21,672,727
Forestry management cost saving	\$0	\$0	\$0
Total Benefits	\$45,738,368	\$37,939,418	\$33,011,395
NET BENEFITS	\$37,544,311	\$31,992,592	\$28,441,777

The principal uncertainty in the analysis relates to the opportunity cost associated with the main sand resource. Nevertheless, any future extraction of an as yet unproved resource would face significant commercial and environmental constraints. This implies that any sand mining would only be a possibility well into the future if the commercial environment becomes more suitable. It further implies that the probability of extraction occurring at all is low. Taken together, the commercial and environmental factors suggest a modest to zero opportunity cost associated with the sand resource, whereas the opportunity cost of sand extraction would need to be greater than \$28M to \$38M to make the GoS2 proposal questionable from an economic efficiency perspective.

9.3 Regional economic impacts

Regional economic impact assessment is concerned with the economic stimulus that a proposal may provide to a regional or state economy. This stimulus is normally measured in terms of the economic indicators of output (or business turnover), value-added, income and employment. The technique employed to estimate regional economic impacts is input-output analysis. This section draws on the results of published regional economic impact assessments.

9.3.1 The value of park visitors in NSW

The Commonwealth Department of Communication, Information Technology and Arts, in a study of multipliers for culture-related industries, found that spending on national

parks generates greater employment than the same amount of money spent on most mining, manufacturing and service industries.

Studies in NSW have estimated that every 10 000 park visitors generate between four and seven jobs and between \$130 000 and \$300 000 in business turnover (Powell and Chalmers 1995, Gillespie 2000). These studies are now somewhat dated and the dollar figures would now be higher.

A more recent DEC-commissioned study into the total economic value of 167 parks in north-east NSW (Gillespie Economics 2006) estimated annual visitation at 6 million, which contributed \$107 million to local economies; that is \$18 per visitor and the equivalent of 1 650 jobs. DEC expenditure in managing the parks produced another \$17 million activity or 265 equivalent jobs.

9.3.2 Queensland studies

Two statewide studies have been undertaken in Queensland. Ballantyne *et al.* (2008) reported that Queensland's protected areas host more than 12.5 million visitors each year. Total economic activity flowing from tourism and visitor use of parks and associated accommodation was estimated at between \$1.02 billion and \$1.46 billion – or between \$82 and \$117 per visitor. Visitor use of Queensland parks was found to support more than 6 000 jobs directly and many more indirectly. Nearly 90 percent of these jobs are in the private sector.

Ballantyne *et al.* (2008) also examined tourist spending related to national parks in Queensland. They found that direct spending by overnight tourists visiting Queensland's national parks amounted to approximately \$4.43 billion annually (approximately 28 per cent of total tourist spending in Queensland). Direct spending by tourists that may be attributed exclusively to the existence of the national parks amounted to over \$749 million per annum (\$80 per visitor night), and contributed around \$345 million to gross state product per annum.

The latter 'national park exclusive' estimate is considered to be the amount which would have either not been spent in Queensland by tourists or, alternatively, spent in another state or overseas if the current parks system had not been accessible. This study was based on an average annual number of national park related visitor nights from 2002 to 2007 of 9.365 million.

It should be noted that this study did not attempt to evaluate the total regional economic impact of parks by including the flow-on effects of national park related spending. The study also excluded tourism-related day trips, which would have boosted the total expenditure.

These two Queensland studies can be integrated by dividing the direct spend figure of \$749 million by a national park visitation of 12.5 million. This suggests a fairly crude measure of \$60 expenditure per park visitor.

9.3.3 Research on new parks in Victoria

Gillespie Economics *et al.* (2008) analysed the potential regional economic impact of the reservation of 90 000 hectares of new River Red Gum parks along the Murray River corridor, noting that:

Land allocated for conservation may stimulate regional economic activity through management expenditures and expenditures associated with additional tourists attracted to the region.

Their analysis was based on an estimated additional management expenditure of \$500 000 per annum and additional annual visitation of up to 48 000 people. They found that management of the land as national parks would have the following regional economic impacts:

- \$792 000 to \$1 032 000 in annual regional output;
- \$284 000 to \$344 000 in annual income;
- \$324 000 to \$450 000 in annual value-added;
- 6 to 8 jobs.

The assumed 48 000 additional visitors to the reserves would have the following regional economic impacts:

- \$3.5m to \$4.2m in annual regional output;
- \$0.9m to \$1.0m in annual income;
- \$1.4m to \$1.8m in annual value-added;
- 23 to 26 jobs.

On the upper range, the combined impacts amounted to:

- \$5.244m annual regional output;
- \$1.371m annual income;
- \$2.214m annual value-added;
- and 34 jobs.

9.3.4 Estimating regional economic impacts of the GoS2 proposal

Based on the older NSW research figures (section 9.3.1), 50 000 visitors a year would produce an annual turnover of more than \$1 million a year with about 25 jobs supported.

Queensland research (section 9.3.2) suggests that 50 000 visitors per year could produce direct spend of \$3 million.

The recent Victorian River Red Gum parks study (section 9.3.3) employed an alternative methodology, based on a comparable estimate of 48 000 visitors a year, and produced the following estimated regional economic impacts:

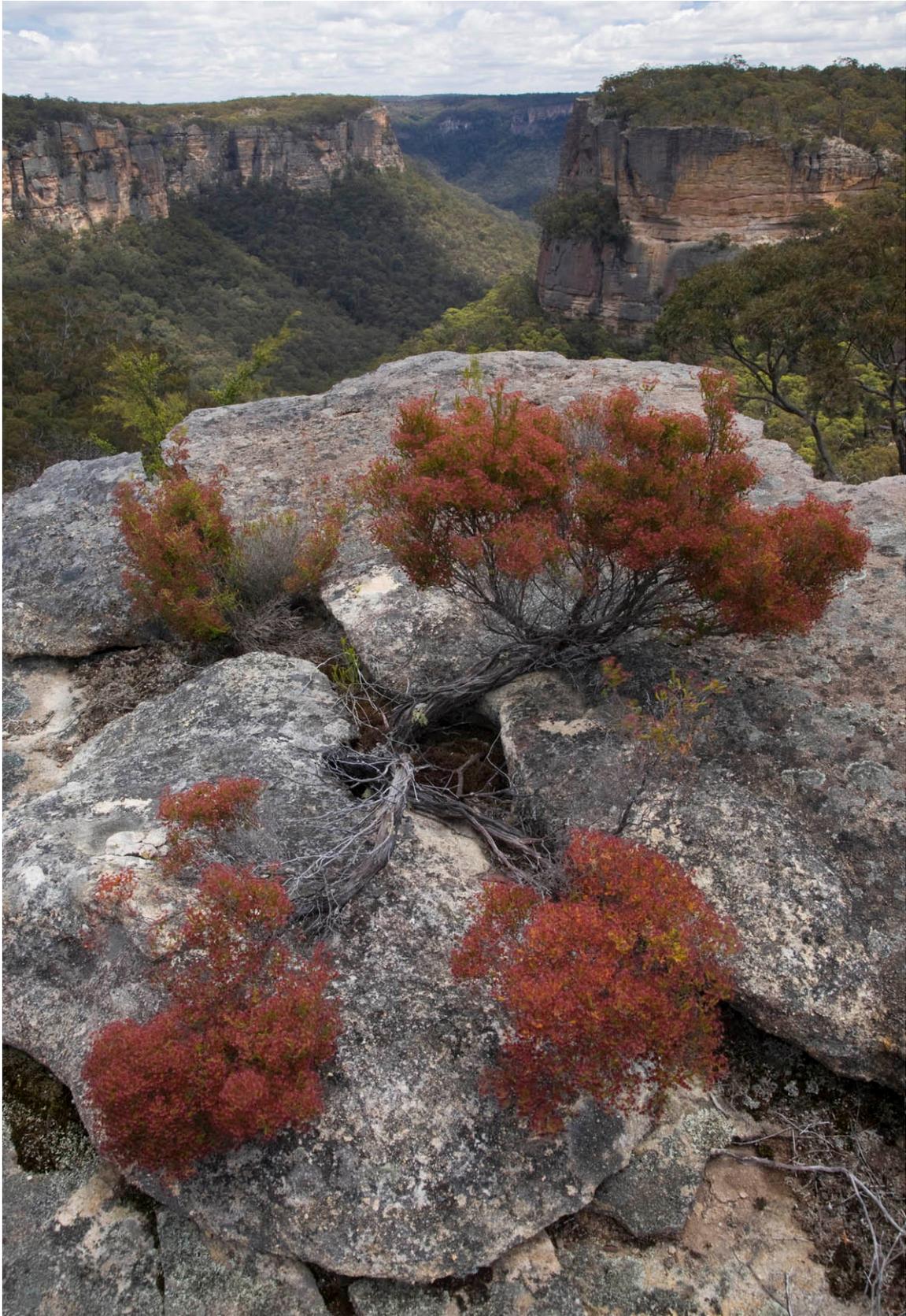
- \$3.5m to \$4.2m in annual regional output;
- \$0.9m to \$1.0m in annual income;
- \$1.4m to \$1.8m in annual value-added;
- 23 to 26 jobs.

This total economic activity of \$4.2 million from 48 000 visitors from the Victorian research is broadly consistent with a direct spend of \$3 million by 50 000 visitors from the Queensland studies. Therefore these figures suggest that 50 000 visitors a year to a GoS2 reserve system could produce comparable economic benefits; that is in the range of \$3-4 million.

It should be noted that the additional economic benefit produced by expenditure on park management is not considered here as it is somewhat independent of tourism benefits.



Pagoda and sandstone arch



Above Wolgan Gorge



Prostanthera stricta (threatened plant) in montane forest, Genowlan Plateau

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Stone wall, New Hartley