

SUSTAINABILITY OF ENERGY SUPPLY AND RESOURCES IN NSW

Organisation: The Colong Foundation for Wilderness Ltd

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THE COLONG FOUNDATION FOR WILDERNESS LTD.

Monday August 5th, 2019

Mr Alex Greenwich, MP
Chair
Standing Committee on Environment and Planning
Legislative Assembly
NSW Parliament House
Macquarie St
SYDNEY NSW 2000

Inquiry into sustainability of energy supply and resources in NSW

The Colong Foundation for Wilderness Ltd is a non-profit, non-government charity that works for the protection of wilderness and national parks.

The Colong Foundation's contribution to this inquiry addresses term of reference 5 but this contribution is geographically focussed on the southern part of the Western Coalfield. It examines the Lithgow region as a case study, its coal resources and the Mt Piper Power Plant.

The media release of July 17, 2019 announcing this inquiry stated that "*We have to look at opportunities for communities and invest in retraining and job creation*".

"We look forward to hearing from all interested groups on what kind of transition framework they'd like to see. It's important that we hear from local advocates of affected communities and involve workers and regional industries, including emerging industries".

The above statement provides context for relevant Inquiry term of reference 5:

Opportunities to support sustainable economic development in regional and other communities likely to be affected by changing energy and resource markets, including the role of government policies.

Mt Piper Power Plant some twenty kilometres north of Lithgow has an operational life until 2043 (reference - Energy Australia media release, 20 September 2018). Coal resources for the power plant will be exhausted around that date. The primary mines that provide the coal to the plant are Springvale and then Angus Place coal mines. Angus Place has about 21 years of reserves and Springvale only a few years of operational resources.

This inquiry should note that the maximum operation timeline for the youngest coal-fired power plant in NSW is 25 years, but economic, political and environmental factors may curtail operations before then. Just this year the Springvale mine ran into geologically difficulties that has required Centennial Coal, the mine's operating company, to truck coal resources from its Clarence Mine via Mt Victoria and Lithgow to meet contract requirements at the power plant.

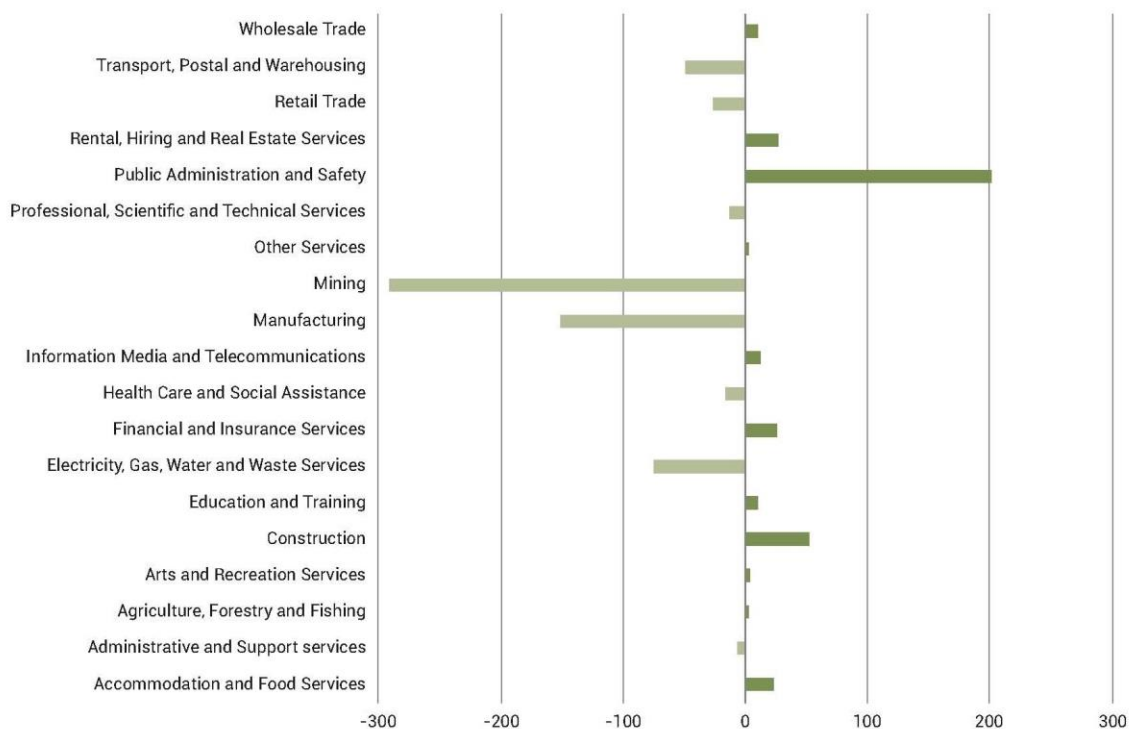
If the youngest power plant has only 25 years, and matters like previously unidentified igneous intrusions curtail production unexpectedly, then transitioning away from the existing coal fired power plants is a present issue that must be addressed by the NSW Government.

The Western Coalfield is exceptional as its coal resources in the southern half of the coalfield that can be accessed by the Mt Piper power plant are near an end. So no matter where you sit on the political spectrum regarding coal mining, the issue of transition for the Lithgow region cannot be kicked down the road as there will be few coal related jobs available in 25 years.

There has been a marked decline in mining employment in the Lithgow region in recent years (see below). The regional decline in the mining sector is not a passing trend but one where future mining opportunities are limited.

As a result of these factors Lithgow, when compared to regional NSW generally, has lower household incomes, high levels of disadvantage, young people leaving the area and so an aging population. These are the symptoms of a failing regional economy.

To avert this economic prognosis, the broadest possible political support should be developed for a Lithgow region economic transition plan to avert further regional decline.



Source: Roderick Campbell (Australia Institute) using ABS data from 2016 census

Development of Lithgow's tourism economy – a key opportunity

Lithgow is working to expand and diversify its economy and local employment opportunities, preferably *“linked to the unique character and advantages of the Lithgow region”* (Lithgow

Community Plan 2030). Tourism is an industry that meets these specifications and has significant growth potential. Lithgow can be the new Katoomba.

In 2016/17 the value of Lithgow's tourism economy was 4.9% of the total industry output in the LGA. Across NSW as a whole, tourism represents 5.9% of total industry, suggesting Lithgow is underperforming with room for expansion in tourism. Tourism industry values and employment have increased overall since 2000, but slowly and erratically, as shown in the tables below.

Lithgow's small tourism industry is based around attractions, such as Lake Lyell and industrial heritage sites but there is potential for development.

Lithgow is less than an hour by road or train from the well-established tourist 'Mecca' of the Blue Mountains, which attracts 5 million visitors a year. Crowding is starting to diminish the amenity of many sites in the established 'core' Blue Mountains area, and the attractions in the Gardens of Stone are in the forests beside Lithgow are in many ways more accessible and family-friendly.

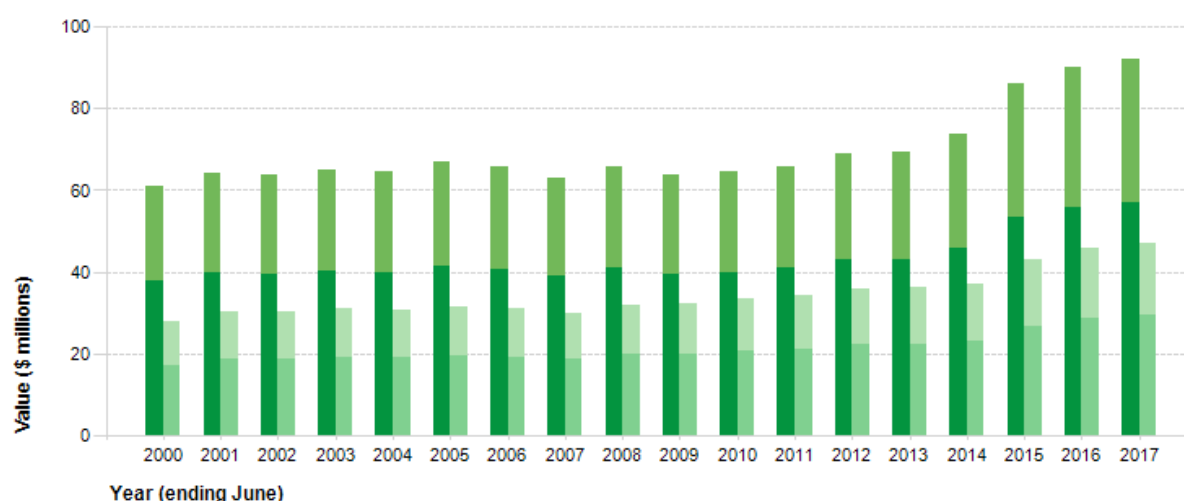
The Lithgow Community Plan 2030 lists *"Turning Lithgow into a hub for visitors to the Blue Mountains region, bringing more people to the area that stay for longer periods of time"* as a Priority Project.

The Colong Foundation believes that a well-presented, well-planned Gardens of Stone State Conservation Area would achieve the above goal in one step, by creating a new, large and diverse multi-day attraction, close to the Blue Mountains, with vehicle access planned to make Lithgow the gateway community. Data from comparable parks suggests such a reserve could attract 200,000 visitors a year (which by way of comparison is 5% of visitors to the Blue Mountains, so this is a conservative estimate).

Value of tourism and hospitality

Lithgow City Council

Output/Sales - Direct Output/Sales - Indirect Value added - Direct Value added - Indirect



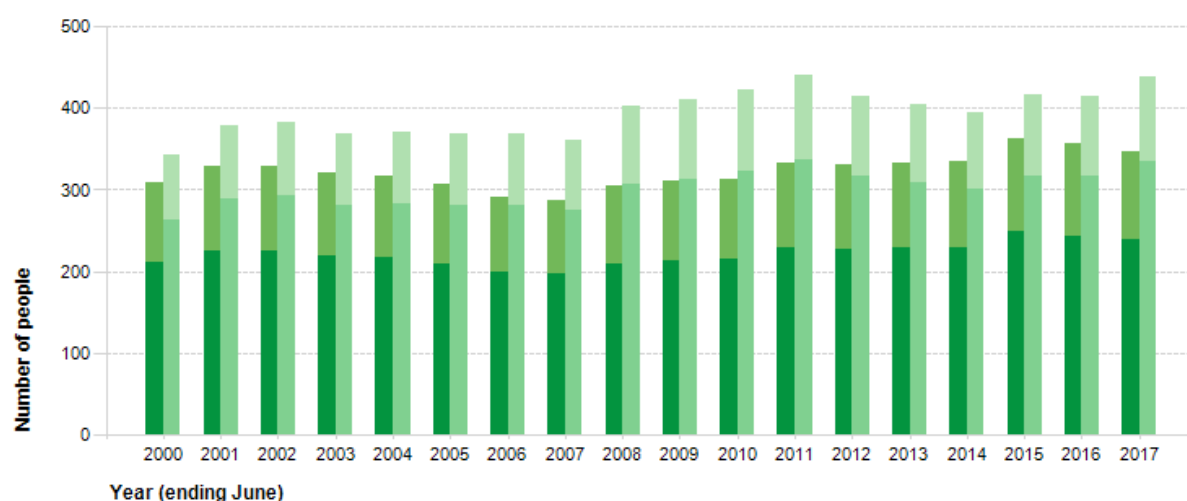
Source: National Institute of Economic and Industry Research (NIEIR) ©2016
Compiled and presented in economy.id by .id the population experts

.id the population experts

Tourism and hospitality employment

Lithgow City Council

■ Employment (FTE) - Direct ■ Employment (total) - Direct ■ Employment (total) - Indirect
■ Employment (FTE) - Indirect



Source: National Institute of Economic and Industry Research (NIEIR) ©2016
Compiled and presented in economy.id by .id the population experts

.id the population experts

Destination Pagoda

The Colong Foundation, Blue Mountains Conservation Society and Lithgow Environment Group have developed a visitor plan that positions Lithgow as the gateway to the Gardens of Stone area.

Destination Pagoda proposes to significantly increase the number of visitors to Lithgow through the creation of new visitor opportunities in a state conservation area reserve in which underground mining is permissible. This type of reserve is required because the public forests beside Lithgow with outstanding heritage assets are within mining leases and most of these areas have a valid planning consent to mine coal.

The untapped tourism value of Lithgow's Gardens of Stone backyard lies in the diversity and rarity of its scenery and native flora. These values should be protected and then enjoyed by thousands of people through the creation of recreation facilities that will enable families to get close to nature while still being able to have lunch in town.

New South Wales and Sydney's five million residents would benefit from such a family-friendly destination as an alternative and extension to the traditional Blue Mountains tourist sites that have become crowded.

The aim of *Destination Pagoda* is to win support for the protection and effective management of the internationally significant pagoda landscapes of 39,000 hectares of public forests and to strategically develop basic visitor attractions that will secure Lithgow's future as a tourist destination.

A new Gardens of Stone State Conservation Area with appropriate tourism development will be a win for the economy, community and environment of Lithgow and New South Wales.

Destination Pagoda will make a major contribution by creating opportunities for several sectors of the potential tourist market that Lithgow has not yet developed. Visitors to a new State

Conservation Area reserve will then obtain a range of services from a 'gateway' Lithgow, including food, drink, supplies, accommodation, outdoor equipment, fuel, entertainment, restaurants, transport and guided tours.

If half of the \$28 million dollars which would be spent by 200,000 *Destination Pagoda* visitors per year are captured by Lithgow, this would achieve a significant boost to local tourism output plus the creation of about 117 new jobs. This 'economic hit' could produce major flow-on benefits and lift the local tourism industry to a dynamic level of opportunity where visitors see Lithgow as an exciting place to visit.

The establishment and ongoing management of the State Conservation Area will also inject additional direct and indirect expenditure and employment into Lithgow LGA, almost certainly including a National Parks and Wildlife Service (NPWS) base established in the town and its associated flow-on benefits.

Only Lithgow's iconic pagoda landscapes have the cachet that can define the town as a major tourism destination. Katoomba has the 3 sisters, while Lithgow has 3,000 pagodas. *Destination Pagoda* is a vision that is linked with and integrated to its industrial heritage, particularly through the Lithgow State Mine Museum and Railway and the cultural values of Wiradjuri Country through Maiyngu Marragu Aboriginal Place.

Protecting important values

The Gardens of Stone State Conservation Area is a unique opportunity to protect a magnificent landscape of rare pagoda rocks, gorges, beautiful forests and swamps and a large number of threatened plants, animals and ecological communities (84 threatened plant and animal species, e.g. Blue Mountains Water Skink, and 16 rare and threatened communities). Several of these biological highlights are found nowhere else in the world; potentially making Destination Pagoda an international tourist attraction.

The area has significant Aboriginal heritage and historic industrial features, which can be protected, presented and celebrated within the new reserve (with appropriate cultural and heritage approvals).

Investing in Lithgow's future

Achieving the tourism potential of Destination Pagoda requires government investment of an estimated \$31.6 million over the first 10 years, and \$800,000 annually ongoing (as part of the overall budget for managing parks and the environment across NSW). This will not be a 'transfer payment', as most of Lithgow's visitors will be new visitors from Sydney or visitors who would have otherwise had a less satisfactory experience at the traditional Blue Mountain sites that are becoming crowded. The initial investment would establish professional land management, improve access roads, develop a range of environmentally sustainable visitor facilities, restore degraded areas, promote the area for visitors, support local enterprises to benefit from investment in the reserve and protect

important values. This level of government investment is required to generate the resultant economic benefits and associated regional employment growth.

Developing and promoting *Destination Pagoda*

Existing access roads will be managed by the NPWS to provide 2WD and 4WD touring routes which are linked to specific attractions. Facilities will be developed to support low-impact, family-oriented activities including camping, bushwalking, sight-seeing, picnicking, Aboriginal heritage viewing, mountain bike touring, education, birdwatching, nature study, canyoning and rock climbing.

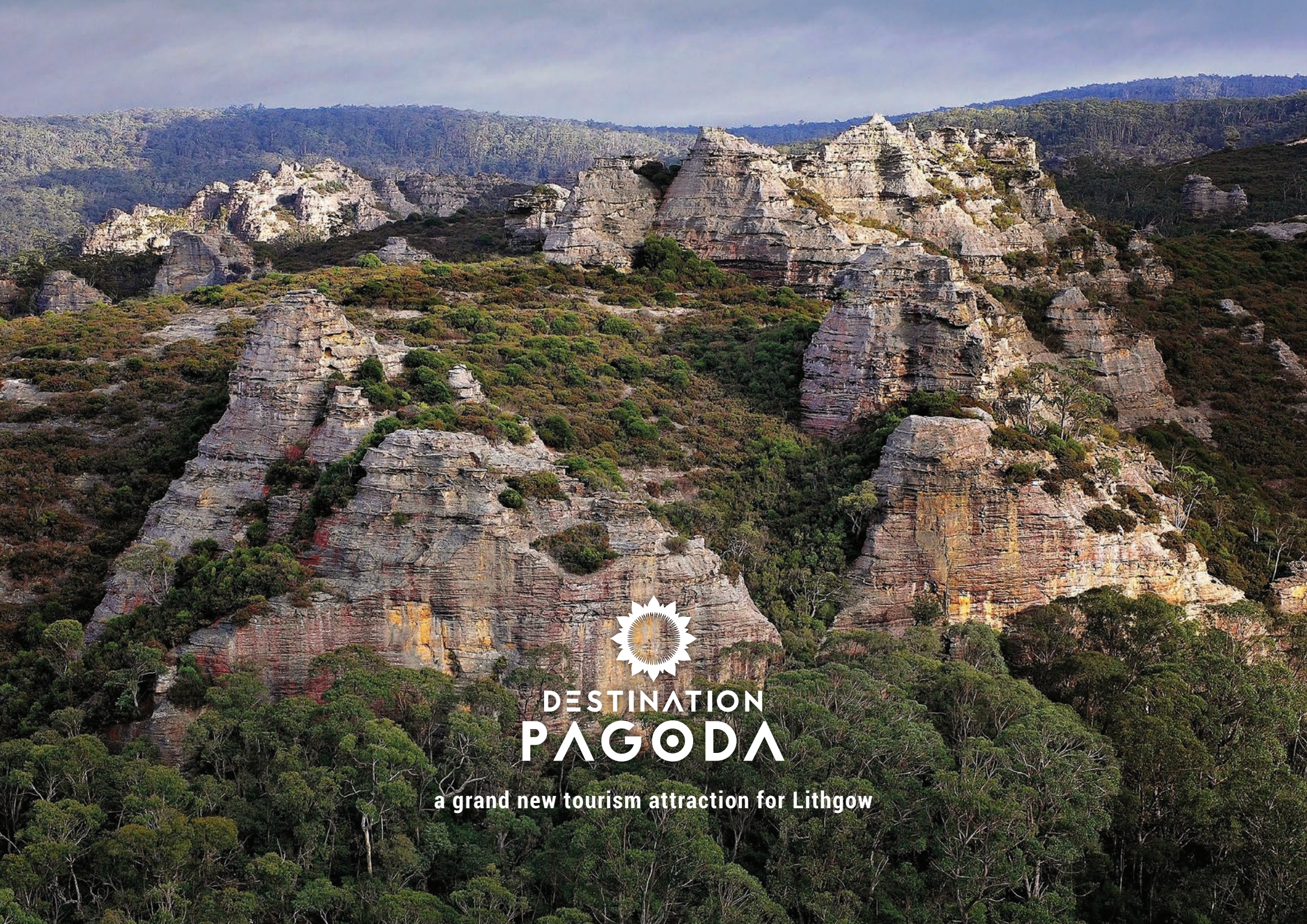
The presentation of the new State Conservation Area to achieve its tourism potential will require a detailed program of information, promotion and interpretation, to present Lithgow as part of the Destination Pagoda experience. Signage, printed material (maps, brochures, etc) and electronic media will all be important, along with promotion by local industry and government. Formal conservation tenure (as a State Conservation Area) with effective and professional management of conservation and recreation, is an essential prerequisite to promotion.

More details on the *Destination Pagoda* vision, including a proposed Master Plan maps, see the attached detailed report.

Yours sincerely,

A black rectangular box redacting the signature of Keith Muir.

Keith Muir
Director
The Colong Foundation for Wilderness Ltd



DESTINATION
PAGODA

a grand new tourism attraction for Lithgow



*Bob Brown on the proposed
Birds Rock Forest Walk*

PHOTO: IAN BROWN



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Cover image: *Lost City pagodas, Newnes Plateau* by Henry Gold

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Tree ferns PHOTO: IAN BROWN



Sunset, western escarpment of Newnes Plateau PHOTO: IAN BROWN

Destination Pagoda a grand new tourism attraction for Lithgow

Foreword

This plan establishes the tourism potential of Lithgow's beautiful and internationally significant pagoda landscapes.

The Colong Foundation, Blue Mountains Conservation Society and Lithgow Environment Group have developed a visitor plan that positions Lithgow as the gateway to the Gardens of Stone area. *Destination Pagoda* proposes to significantly increase the number of visitors to Lithgow by creating new visitor opportunities in a state conservation area where underground mining is permissible.

The untapped value of Lithgow's Gardens of Stone backyard lies in the diversity and rarity of its scenery and native flora. These values can be protected and enjoyed by thousands of people through the addition of recreation facilities that will enable families to get close to nature while still being able to have lunch in town.

New South Wales and Sydney's five million residents need this family-friendly destination as an alternative and extension to the traditional Blue Mountains tourist sites that have become crowded. The aim of this plan is to protect and effectively manage the pagoda landscapes of 39,000 hectares of public forests and to strategically develop basic visitor attractions that will secure Lithgow's future as a tourist destination.

A new Gardens of Stone State Conservation Area with appropriate tourism development will be a win for the economy, community and environment of Lithgow and New South Wales.

Only Lithgow's iconic pagoda landscapes can define the town as a major tourist destination.

Gardens of Stone Alliance

Aboriginal Country

The Gardens of Stone Alliance¹ recognises that the Gardens of Stone region is and always has been Aboriginal land, especially of the Wiradjuri people. We pay respect to the Traditional Custodians, their elders past, present and future. We acknowledge their living culture and unique role in the life of the area. We thank them for protecting the Gardens of Stone and for welcoming people to share and enjoy their Country and their culture.

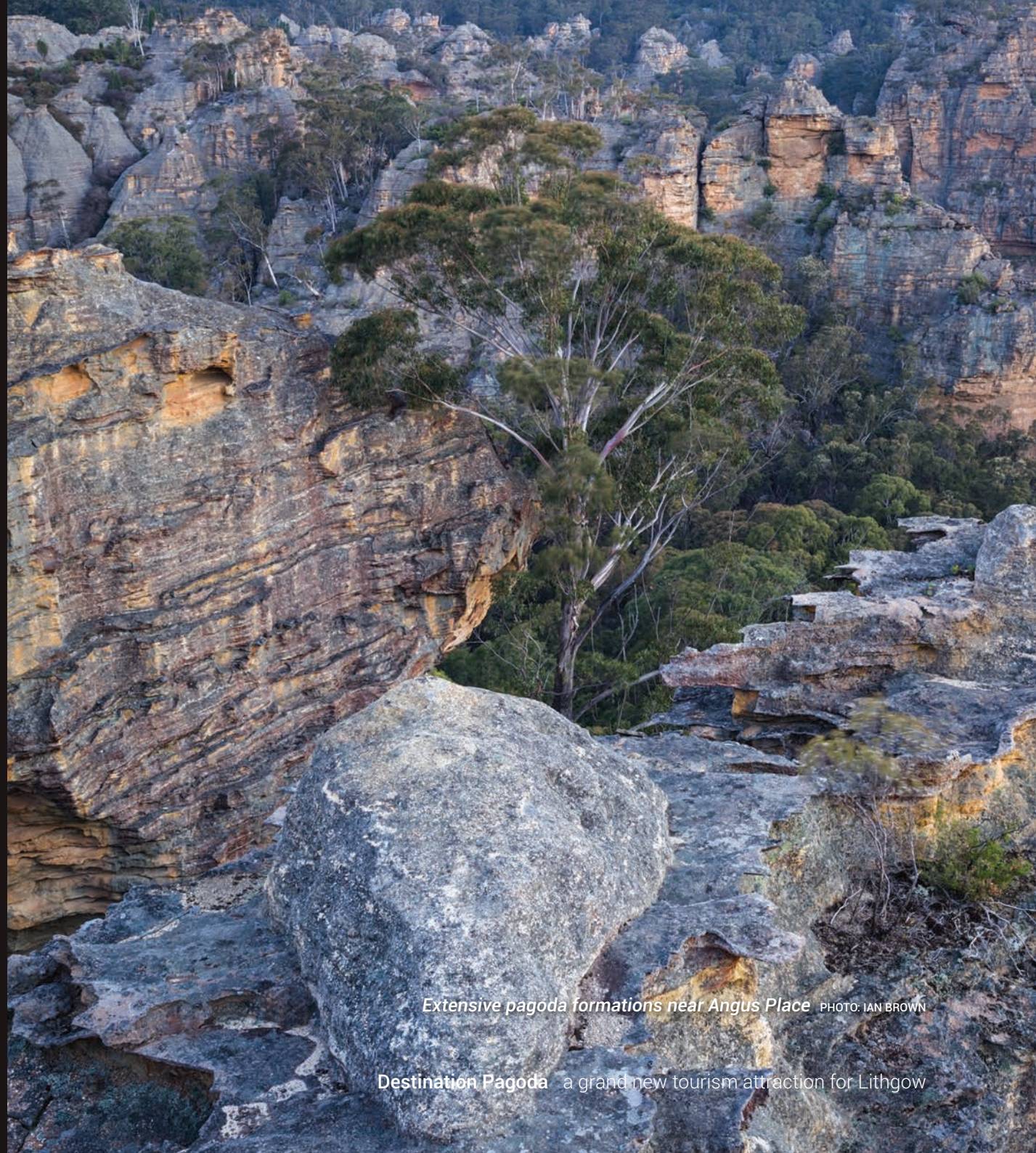
Statement from Wiradjuri Elder Auntie Helen Riley, on behalf of Mingaan Wiradjuri Aboriginal Corporation, Lithgow:

“ We welcome the opportunity to assist the Gardens of Stone Alliance and the Gardens of Stone proposal.

The respect for the land is paramount to ensure not only the protection of the environment but equally Aboriginal culture. Look after the land and the rivers and the land and the rivers will look after you.

Our landscapes are our pages telling our story. Damage to any part is disrespectful to all our Ancestors.

¹ The Gardens of Stone Alliance consists of the Blue Mountains Conservation Society, the Colong Foundation for Wilderness and the Lithgow Environment Group.



Extensive pagoda formations near Angus Place PHOTO: IAN BROWN

Destination Pagoda a grand new tourism attraction for Lithgow

Summary

An exciting opportunity

Destination Pagoda is a grand vision for a world-class tourism and conservation reserve, right next to Lithgow in the western Blue Mountains. A state conservation area will grow and diversify the city's tourism economy.

The ancient 'pagoda' landscapes above Lithgow are found nowhere else in the world, with their spectacular rock pinnacles, gorges, cliffs, waterfalls, swamps, forests, Aboriginal heritage and rock art, and many rare plants and animals. These features can create an iconic, rewarding, must-see destination for local people, Sydney residents and international visitors wanting to experience a different and special part of the Blue Mountains.

This attractive and easily accessible area is Lithgow's 'backyard' and offers the city an historic opportunity to carve out a niche in the growing eco-tourism economy.

With appropriate government investment and effective management, a suite of low-key but strategically located facilities can be developed in the new 39,000 hectare Gardens of Stone State Conservation Area and promoted along with Lithgow itself to a wide range of visitors. Such an attraction so close to the Blue Mountains tourist hotspots will attract substantial visitor numbers and local expenditure.

Destination Pagoda would be established on public lands (mainly Newnes, Ben Bullen and Wolgan

State Forests) that are at present inadequately managed for their conservation values. A state conservation area allows responsible underground mining to continue while ensuring protection of the area's unique natural and cultural values and promoting public enjoyment and tourism. This vision is compatible with Lithgow's unique industrial culture and a boost for the community, jobs and the environment. Reservation of the whole proposed area, moderate initial investment and ongoing management are required to achieve these outcomes.

Destination Pagoda is perhaps the last great opportunity to create another large and popular recreation and conservation reserve in the critical population and visitor catchment of the Greater Sydney Region. In 'style' it would be a lower key version of existing parks like Royal National Park and Ku-Ring-Gai Chase National Park, with a network of gravel access roads and basic facilities. With its accessible areas of gentle terrain, *Destination Pagoda* offers a more family-friendly and immersive experience than the generally rugged gorges and steep walks of the nearby Greater Blue Mountains World Heritage Area.

Growing tourism

Lithgow has a well-established yet small tourism industry, based around attractions such as Lake Lyell and industrial heritage sites.

It is less than an hour by road or train from the well-established tourist 'Mecca' of the Blue Mountains, which attracts 4 million visitors a year. Crowding is starting to diminish the amenity of many sites in the established 'core' Blue Mountains area, and the attractions in the Gardens of Stone are in many ways more accessible.

The Lithgow Community Plan 2030 lists *"Turning Lithgow into a hub for visitors to the Blue Mountains region, bringing more people to the area that stay for longer periods of time"* as a Priority Project. A well-presented, well-planned state conservation area would achieve this in one step, by creating a new, large and diverse multi-day attraction, close to the Blue Mountains, with vehicle access planned to make Lithgow the gateway community. Data from comparable parks suggests such a reserve could attract 200,000 visitors a year (which is 5% of visitors to the Blue Mountains).

Benefiting Lithgow

Lithgow looks to expand and diversify its economy and local employment opportunities, preferably *"linked to the unique character and advantages of the Lithgow region"* (Lithgow Community Plan 2030). Tourism is an industry that can grow. *Destination Pagoda* will make a major contribution by creating opportunities for sectors of the

potential tourist market that Lithgow has not yet developed. Visitors to a new state conservation area reserve will seek a range of services from a 'gateway' Lithgow, including food, drink, supplies, accommodation, outdoor equipment, fuel, entertainment, restaurants, transport and guided tours.

If half of the \$28 million dollars which would be spent by 200,000 *Destination Pagoda* visitors per year are captured by Lithgow, this would achieve a significant boost to local tourism output and create about 117 new jobs. This 'economic hit' could produce major flow-on benefits and lift the local tourism industry to a dynamic level of opportunity where visitors see Lithgow as an exciting place to visit.

The establishment and ongoing management of the state conservation area will also inject additional direct and indirect expenditure and employment into Lithgow LGA. It is likely to lead to the National Parks and Wildlife Service (NPWS) establishing a base in the town, with associated flow-on benefits.

Protecting important values

The Gardens of Stone State Conservation Area is a unique opportunity to protect a magnificent landscape of rare pagoda rocks, gorges, beautiful forests and swamps and a large number of threatened plants, animals and ecological communities (84 threatened plant and animal species, e.g. Blue Mountains Water Skink, and 16 rare and threatened ecological communities).

Several of these biological highlights are found nowhere else in the world, potentially making *Destination Pagoda* an international tourist attraction.

The area has significant Aboriginal heritage and historic industrial features, which can be protected, presented and celebrated within the new reserve (with appropriate cultural and heritage approvals).

Investing in Lithgow's future

Achieving the tourism potential of *Destination Pagoda* requires government investment of an estimated \$31.6 million over the first 10 years, or \$22.2 million in present value terms (assuming a 7% discount rate), and \$800,000 annually ongoing for managing the new state conservation area. The initial investment would establish professional land management, improve access roads, develop a range of environmentally sustainable visitor facilities, restore degraded areas, promote the area to visitors, support local enterprises to benefit from investment in the reserve and protect important values. This level of government investment is required to generate the resultant economic benefits and associated regional employment growth.

This investment in the future of Lithgow's economy can be funded from a combination of sources including:

- Centennial Coal's swamp offset funds of up to \$14 million currently (which is earmarked for appropriate conservation outcomes);

- grants from specific government programs, such as NSW Regional Growth and Destination NSW programs for specific reserve establishment projects that can boost Lithgow's tourism economy (e.g. lookouts);
- reductions in net government expenditures through mining company road maintenance and pest species management, and also by transfer of state forest expenditures to the NPWS;
- other funds from Commonwealth and NSW governments to support the local economy.

Developing and promoting *Destination Pagoda*

Existing access roads will be managed by the NPWS, augmenting current mining company maintenance, and improved where necessary, to provide 2WD and 4WD touring routes which are linked to specific attractions. Facilities will be developed to support low-impact, family-oriented activities including camping, bushwalking, sight-seeing, picnicking, Aboriginal heritage viewing, mountain bike touring, education, birdwatching, nature study, canyoning and rock climbing.

**'...to present
Lithgow as
part of the
Destination
Pagoda
experience.'**

The presentation of the new state conservation area to achieve its tourism potential will require a detailed program of information, promotion and interpretation, to present Lithgow as part of the *Destination Pagoda* experience. Signage, printed material (maps, brochures, etc) and electronic media will all be important, along with promotion by local industry and government. Formal conservation tenure (as a state conservation area) with effective and professional management of conservation and recreation, is an essential prerequisite to promotion.

Purpose of plan

This plan includes details for the development of visitor facilities, as a vision of what can be achieved with the tourism potential of a new *Destination Pagoda* reserve, while protecting heritage values.

This plan is for the community and for leaders at all political levels to read, consider and take forward. It seeks to provide a starting point for the formal planning of the management and development of the new destination and to identify the investment required to support visitor infrastructure and services.



Pagoda Daisy
PHOTO: IAN BROWN

Destination Pagoda: a grand new tourism attraction for Lithgow



Sandstone escarpment, Newnes Plateau PHOTO: IAN BROWN

What is this plan about?

This plan presents a vision for a world-class conservation and eco-tourism destination on Lithgow's 'doorstep', by establishing a 39,000 hectare Gardens of Stone State Conservation Area (hereafter referred to as *Destination Pagoda*). This reserve can be designed to be a 'win-win-win' for the Lithgow area's workers, community and environment. Importantly, a State Conservation Area is a reservation that permits underground mining to continue while protecting surface features as identified by development controls under planning law. This type of reserve can look after the ancient pagoda landscapes adjoining Lithgow, while increasing and diversifying employment in the Lithgow area.

The Vision – *Destination Pagoda* will:

- allow responsible underground mining to continue;

- invest in low impact recreation facilities strategically located so as to encourage an eco-tourism economy in the Lithgow region;
- ensure professional conservation land management for the area;
- protect internationally significant pagoda landscapes², nationally rare upland swamps and many other important natural and cultural features.

This document has been prepared by the Gardens of Stone Alliance drawing on community members, local expertise and interested parties. It demonstrates that a Gardens of Stone State Conservation Area with coal extraction and environmental tourism will benefit the local community and create a positive, well-managed future for the bushland near Lithgow. It does not develop these ideas into 'shovel-ready' projects. This will require specific site assessment and selection processes for each facility, building plans, quantity surveys and costings. The future management agency (NPWS) will need to undertake its own planning process for a new state conservation area.

Destination Pagoda is the last unprotected element of Myles Dunphy's 1932 Blue Mountains National Park scheme. It aims to complete his visionary plan through the creation of visitor opportunities using existing road access to a select number of vantage points and sights that lie outside the wilderness, as he would have intended.

What and where are the Gardens of Stone?

The Gardens of Stone region takes in sandstone plateaus and escarpments of the western Blue Mountains, mainly within the Central Tablelands region of New South Wales. The region straddles the junction of the Great Dividing Range with the Blue Mountains Range, in the headwaters of the Colo, Cops and Turon Rivers. This area is about 120 km north-west of the Sydney CBD and immediately east and north of the regional centre of Lithgow.

The 39,000 hectare State Conservation Area proposal covers publicly-owned lands that are currently state forests and Crown lands, as shown in the map on page 15. The proposal lies mainly

² Washington, H.G. and Wray, R.A.L. (2011). 'The Geoheritage and Geomorphology of the sandstone pagodas of the north-eastern Blue Mountains region (NSW)'. *Proceedings of the Linnean Society of NSW* **132**, 131-143.

within the Lithgow local government area, and partly within Blue Mountains LGA.

The plan presented here is mainly focused on developing the core block of the reserve made up of Newnes, Ben Bullen and Wolgan State Forests.

The proposal lies to the south and west of the existing and adjoining Gardens of Stone National Park, Wollemi National Park and Blue Mountains National Park, which are all part of the Greater Blue Mountains World Heritage Area.

The Gardens of Stone landscape features a unique assemblage of spectacular escarpments with 'lost villages' of intimate sandstone pinnacles, coloured cliff lines, canyons, forested valleys, windswept plateau heathlands, rainforest gorges, montane woodlands and rare swamps. The mix of rugged and more subdued terrain has moulded specific human responses from ancient Aboriginal times to modern industries, creating a culturally distinctive heritage.

(See Appendix A for basic facts about the Gardens of Stone State Conservation Area proposal).

Achieving Government strategies

Destination Pagoda is an opportunity for all levels of government to implement various current strategies including:

- *NSW State Plan 2021* targets related to regional economies, conservation and recreational opportunities;
- *Lithgow City Council Community Strategic Plan 2030*, especially economic diversification;



- Destination NSW and NPWS plans to disperse visitors from Sydney and heavily used Blue Mountains parks;
- *Greater Blue Mountains World Heritage Area Strategic Plan (2009)* and *Addendum (2016)* to

protect the integrity of the World Heritage Area through compatible management of adjoining areas.

What does *Destination Pagoda* do for tourism?

2.1 A strategically placed asset

The potential of *Destination Pagoda* for the Lithgow region and for tourism in NSW can be seen in its relationship to the main touring routes of the state as shown in the map on page 12. People travelling along the nearby Tablelands Way, or travelling through Lithgow between Sydney and Bathurst, Mudgee or other Central West attractions can be diverted and encouraged to visit *Destination Pagoda* through a well-designed communications strategy.

The significance of *Destination Pagoda* specifically to the Lithgow area as a tourism gateway can be

seen in the map on page 15. Lithgow is already strategically placed as a service and transit town for people travelling through or visiting nearby natural areas and national parks, except that many currently see no reason to divert off the highway to visit the town. *Destination Pagoda* creates that reason, as Lithgow is closer and more accessible to its must-see iconic attractions. Lithgow can then leverage off *Destination Pagoda* and other nearby national parks to become the gateway service town for tourism in the western Blue Mountains.

The Lithgow local government area covers over 4,500 square kilometres, nearly two-thirds of which is rugged terrain in national parks. *Destination Pagoda* is the iconic must see link to bind these natural areas closely to the population centres of Lithgow, Wallerawang and Portland. Most national parks visitors would then travel through Lithgow to visit this important pagoda landscape.

Lithgow is only 40 minutes drive from Katoomba, the hub of the massive and mature Blue Mountains tourism market. Many visitors to the Blue Mountains are looking for something new and different, or for experiences not so available in the 'old' Blue Mountains. *Destination Pagoda* offers these new visitor opportunities:

- a suite of easy and family-friendly walks that contrast with the generally steep and hard walks of the Blue Mountains;
- opportunities to drive into natural bushland to experience a different Blue Mountains without having to drive a long way, such as out to Kanangra Walls;
- an 'out-there' sense of exploring remote and uncrowded country with a natural feel;
- spectacular and different scenery and environments – Lithgow's unique pagoda landscapes.

Destination Pagoda, if properly managed and developed, can improve nature tourism experiences by:

- allowing visitors to reach an attractively presented landscape near Lithgow, with quality, well designed, low impact facilities;
- providing recreation opportunities that are not available (or appropriate) in the more remote and pristine areas;
- providing walks on the plateau that do not require the strength or fitness required for walks in the steep escarpment terrain of



*Montane woodland, proposed
Shrub Swamp Walk, Newnes Plateau*

PHOTO: IAN BROWN

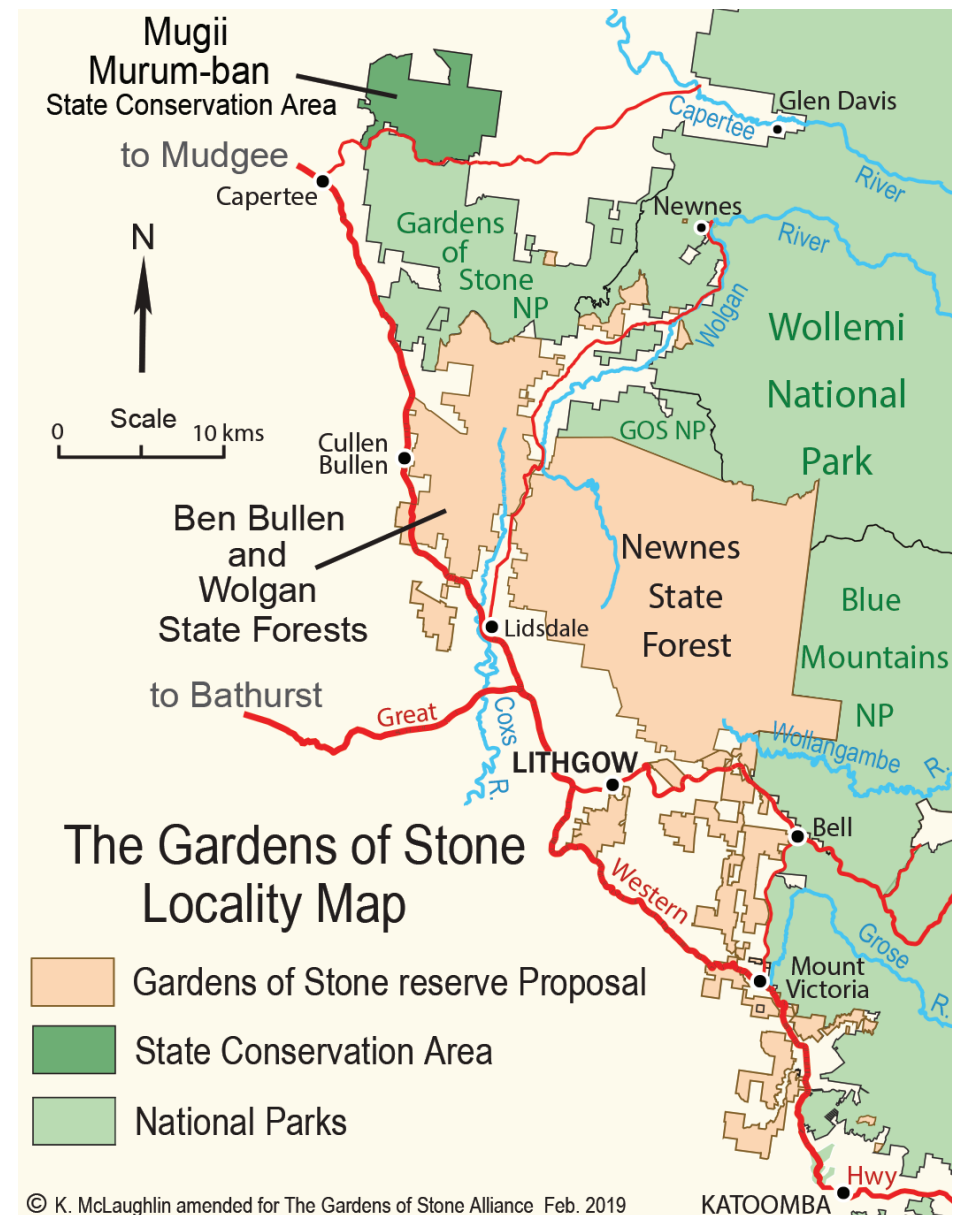
nearby natural areas (e.g. Blue Mountains National Park);

- offering opportunities, at lookouts and on walking tracks, to view and appreciate the wonderful extent of heritage attractions without having to travel too far from the amenities of Lithgow;
- providing a buffer to the adjoining national parks and more remote escarpment forests, thus ensuring higher environmental values in these areas, while offering views of broad areas of remote bushland and the sense of freedom experienced from such remoteness.

2.2 An opportunity waiting

Some of the current low level of visitation to *Destination Pagoda* is focused on inappropriate, damaging and illegal activities. Some areas are unsightly with eroding tracks and other degradation. This situation discourages other, lower impact visitors from larger demographics, such as families looking for quiet activities in nature and educational groups. Good basic facilities including appropriate 2WD access are needed to attract nature-based family visitors and other benign demographics.

The main developed attraction for current visitors is the Glow Worm Tunnel in the adjoining Wollemi National Park. Most visitors there simply drive through Newnes State Forest without stopping. The Bicentennial Trail traverses the western margins of *Destination Pagoda* for through-travellers on foot, bicycle and horseback. Hardy bushwalkers, canyoners and other experienced recreationists with special skills are already attracted to the rugged escarpments and gorges, and do not require facilities specifically for them. This group of visitors, however, will be attracted to Lithgow once more services



are established in the town with the development of *Destination Pagoda*.

Destination Pagoda will unlock this dormant potential for family-based nature tourism by providing appropriate basic facilities and suitable Lithgow-focused vehicle access, promoting Lithgow's unique and highly attractive features, disseminating information and presenting the area's special values.

This will also create more opportunities for local residents to get out, be active and enjoy their own natural 'backyard'. Lithgow will grow in appeal as a tourism and family friendly destination. These outcomes will have flow-on benefits for community wellbeing and pride.

2.3 More tourism for Lithgow

Employment has been declining in the traditional heavy industries of the Lithgow region, including coal mining and power generation. It is widely recognised that coal mining will continue to decline in importance. The vision for employment in Lithgow City Council's Community Strategic Plan 2013-2026 is "*Developing and embracing diverse job opportunities for all ages and abilities.*" The Council has put considerable time and research into its *Destination Management Plan – A Tourism Strategy for Lithgow* which identifies a range of opportunities including nature-based tourism (but does not recognise the potential of Lithgow's unique pagoda landscapes).

In 2016/17, the total of tourism and hospitality sales in Lithgow LGA was \$92m, and the total value

added was \$47.2m. This was 4.1% of total industry output in the LGA. This is significantly less than the average across NSW as a whole, where tourism was 5.9% of total industry output.

Tourism in Lithgow LGA in 2016/17 supported 347 direct and indirect full-time-equivalent (FTE) employees, which is 4.9% of all local industry employment. Tourism industry value and employment have both increased overall since 2000, but slowly and erratically. (See appendix D for sources and supporting data on Lithgow tourism).

These figures highlight the potential value—as identified in Lithgow Council's Community Strategic Plan—of more job creation and economic diversification. *Destination Pagoda* represents a significant opportunity for job creation in the tourism industry. (See Appendix C for details on Lithgow's employment demographics).

New recreational visitors will be attracted to *Destination Pagoda*, and Lithgow can also access the adjacent market of 4 million visitors to the Blue Mountains every year.³ Based on visitation to existing NPWS reserves,⁴ 200,000 people per year visiting *Destination Pagoda* is a realistic aim (i.e. 200,000 people visiting once each). This is equivalent to attracting 5% of people who already visit the Blue Mountains. The Blue Mountains receives:

- 2,240,000 daytrippers;
- over 2,800,000 domestic visitor nights (1,012,000 visitors); and
- 765,000 international visitor nights (129,000 visitors).

Lithgow would only need to attract 5.7% of domestic and international visitor nights to reach the goal of 200,000 visitors per year.⁵

The potential annual visitor spend generated by 200,000 visitors is about \$28 million. This figure is based on an average of \$140 spend per visitor according to the current mix and expenditure of international, domestic overnight and domestic daytrip nature-based visitors to NSW:

- international visitors comprise 12% of nature-based visitors to NSW and spend \$115 per night;
- domestic overnight visitors comprise 41% and spend \$194 per night; and

- domestic daytrippers comprise 42% and spend \$97 each).⁶

An annual visitor spend of \$28 million is equal to 49% of the 2016/17 total direct output (\$57.1m) from the tourism and hospitality sector in Lithgow LGA.⁷ In the Lithgow LGA, each million dollars of tourism output is supported by 4.17 jobs.⁸ Thus, \$28m in additional tourism-based output would directly support an additional 117 FTE jobs and a

**'...unlocking
dormant
potential'**



Destination Pagoda a grand new tourism attraction for Lithgow

Enjoying the Gardens of Stone

PHOTO: IAN BROWN

further 54 jobs through supply-chain and consumption (indirect) effects.

Lithgow can become the gateway to *Destination Pagoda* as an iconic visitor attraction and by far the town's greatest tourism asset. *Destination Pagoda* will create more demand for a range of tours, accommodation, restaurants and cafés, entertainment, transport, and also supplies for the more independent visitors, such as groceries, equipment and fuel. To maximise local economic benefits it will be critical to encourage visitors to stay as long as possible in the Lithgow area by providing a wide diversity of things to do, not just in *Destination Pagoda* but by leveraging off it to interest visitors in the many other local attractions.

Reserve establishment will also inject government resources into the local economy over a period of 10 years or more for employment, contracting, materials and services. As well, NPWS will require a permanent local base for ongoing management of the area.

**'the iconic
must see link'**

2.4 Who will visit *Destination Pagoda* and what will they need?

Destination Pagoda has the potential to attract a wide range of visitors interested in enjoying natural and cultural heritage. This plan focuses on visitors who require facilities for their nature-based enjoyment of the area (rather than skilled

recreationalists who can already access most parts, or higher-impact activities that are best provided for on other lands by local businesses).

Destination NSW and NPWS have classified tourists into market segments in various ways, according to life stage, activity level, attitudes, experience level, motivation and other factors. Broadly, *Destination Pagoda* seeks to attract 'nature tourists' (who are 'based around outdoor and nature experiences') and

'culture and heritage tourists' (who are focused on

'heritage and the arts').⁹ NPWS recognises four core market segments 'that seek to "use" NSW National Parks in very different ways'¹⁰:

- **Socialisers** ('park to play in') – 'motivated by cultural and educational experiences'
- **Escapers** ('place for peace') – 'seeking balance and wellness activities'
- **Adventurers** ('park for me') – 'interested in overnight camping/bushwalks, adventure, guided tours'
- **Explorers** ('new place to explore') – 'keen desire to visit but need reasons to get parks in the diary'.

The proposals in this plan support all four NPWS market segments. However, they are just one way of categorising tourists. Table 1 below takes a more functional approach to identify target visitor groups and how *Destination Pagoda* and the local community will support their interests and encourage them to visit. Each target group in Table 1 can include members of any of the NPWS market segments.

3 Destination NSW 2018, *Travel to Blue Mountains* (www.destinationnsw.com.au/wp-content/uploads/2019/01/travel-to-blue-mountains-snapshot-sept-2018.pdf).

4 Roy Morgan Research, *Annual Visits to NSW NPWS Managed Parks & Reserves 2016 State Report*.

5 Destination NSW 2018.

6 Destination NSW 2017, *Nature Based Tourism to NSW Year Ended September 2017* (www.destinationnsw.com.au/wp-content/uploads/2018/02/nature-based-tourism-to-nsw-snapshot-ye-sept-2017.pdf)

7 .id, *Lithgow City Economic Profile* (<https://economy.id.com.au/lithgow/tourism-value>)

8 .id, *Lithgow City Economic Profile* (<https://economy.id.com.au/lithgow/tourism-value>)

9 www.destinationnsw.com.au/tourism/facts-and-figures/market-segments

10 L. Franklin, NPWS Visitor Profiling and Segmentation Research (www.lgns.gov.au/files/imce-uploads/396/Lawrence_Franklin_NPWS.pdf)

Table 1. Target markets for Destination Pagoda

Target group	What <i>Destination Pagoda</i> will provide (for details, see section 4 Draft Master Plan)	Support services needed and commercial opportunities for local community
Visitors on a longer tour adding a stop in Lithgow, or event attendees seeking an add-on.	Iconic, must-see stop in <i>Destination Pagoda</i> . Stunning view within 15 minutes drive of Lithgow at Marrangaroo Creek Lookout, with toilet and wheelchair access.	<ul style="list-style-type: none"> Meal stop venues capable of catering to a bus load. Other local attractions. Souvenirs and merchandising.
School and other educational groups.	Large group shelters with plenty of interpretive material, curriculum collateral.	<ul style="list-style-type: none"> Tour companies with mini buses.
Visitors wanting comfort, including grey nomads and others on extended touring holiday.	<ul style="list-style-type: none"> Information Bay near entry. Multiple walk options including: two Aboriginal culture interpretive walks, swamp walk, pagoda walk, wildflower walk and walks to lookouts and vantage points. Touring routes on easy 2WD roads, with multiple stops including historic sites, the Glow Worm Tunnel, a bird hide and multiple lookouts. With interpretation, picnic facilities and toilets in some places. 	<ul style="list-style-type: none"> Tourism information, internet access, quality camping and caravanning sites in Lithgow. Places to leave caravans while doing side trips, hotels, B&B, camping options in Lithgow and nearby towns. Wheelchair accessible facilities. Complementary tourism destinations, special interest tours eg. orchids, Aboriginal culture, history.
Tourists/backpackers extending a Blue Mountains scenic tour by an extra day.	Same as for visitors wanting comfort (above).	<ul style="list-style-type: none"> Tourism information, cafés, internet access, meals, camping, backpacker accommodation, lodge style accommodation in Lithgow, 'Lithgow Workies experience' and transport options into <i>Destination Pagoda</i>. Bicycle touring, canyoning, rockclimbing, wild swimming bird-watching tours.
Adventure tourists.	4WD routes, basic camping, access to wilderness areas, remote bush walking, canyons, rock climbing, mountain biking, Bicentennial Trail (existing).	<ul style="list-style-type: none"> Guides, adventure tours, backpacker accommodation, equipment supplies/hire, related events (eg. mountain bike races and orienteering) and complementary private property venues.
Special interest groups.	Interpreted historic sites, birdwatching, botany walks, photography, Aboriginal culture.	<ul style="list-style-type: none"> Spiritual outdoor yoga classes, tailored guided tours, events such as Ironfest.



Temperate rainforest PHOTO: IAN BROWN

Values and conservation

Destination Pagoda will protect many important natural, cultural, scenic, aesthetic, wilderness, recreation and tourism values. Many of these values are unique and some are of national and even global significance. The new state conservation area represents an opportunity to extend the protection of values already recognised within the existing national parks of the Greater Blue Mountains World Heritage Area and, importantly, to protect distinct and rare values that are not yet in any conservation reserve. The values of the whole 39,000 hectare area have been documented in several previous reports (Muir 2005, Brown 2009, Brown 2016). These important values need to be presented as major drawcards for visitors and are summarised below (see Appendix A for more detail on values).

3.1 Natural heritage

- **Geodiversity** – the best areas of iconic sandstone pagoda formations and pagoda landscapes in the Greater Blue Mountains region ('platy' pagodas are of global significance), as well as montane sand dunes, high altitude peat swamps on sandstone and other sandstone landforms including cliffs, slot canyons, gorges, waterfalls, caverns and arches.
- **Biodiversity** – very high ecological diversity including at least 1000 plant species, 33 vegetation communities, at least 319 vertebrate animal species (67 mammal, 185 bird, 47 reptile and 18 amphibian), 42 species of rare/threatened plants, 42 species of threatened fauna, 16 rare and endangered

'an Aboriginal cultural landscape with ongoing cultural connections'

ecological communities (including nationally-listed swamps and wetlands). Newnes State Forest has more native plant species than any other state forest in NSW.

- **Landscape** – integration of geodiversity and biodiversity values in a landscape that is nationally unique.
- **Wilderness** – 2,351 hectares of identified wilderness on the eastern margin of Newnes State Forest (adjoining the declared Wollemi Wilderness).
- **Ecology** – a nationally rare opportunity to complete (with existing parks) the protection of an environmental gradient across the mountains, from the coastal lowlands, over the 1200 metre crest of the Great Dividing Range and onto the Central Tablelands, thus enhancing the climate change resilience of the Greater Blue Mountains World Heritage Area.



Scenery on the proposed Pagoda Valley Walk, Newnes Plateau

PHOTO: IAN BROWN

- **Scenery and aesthetics** – a range of dramatic, intricate and beautiful features derived from landforms and ecology, separately and together, such as pagodas, gorges, canyons, clifflines, big trees, forests, heathlands, wildflowers, vistas, waterfalls, caverns, colourful rocks and weather conditions.

3.2 Cultural heritage

Aboriginal heritage – an Aboriginal cultural landscape with ongoing cultural connections and many known sites including pigment rock art, grinding grooves, wells, occupation deposits in rock shelters and surface scatters, and the well known rock art visitor site of Maiyingu Marragu.

Historic heritage – themes represented include exploration (eg. Mount York historic roads), mining (e.g. State Mine headworks, several other coal and oil shale sites), transport (e.g. Newnes railway, Great Zig Zag) and recreation (e.g. Hassans Walls lookouts).

Destination Pagoda a grand new tourism attraction for Lithgow

Draft master plan

4.1 Guiding principles

The proposals presented here for developing *Destination Pagoda* are based on the following principles:

- Lithgow is established as a gateway service town for *Destination Pagoda*;
- protection and restoration of the natural and cultural heritage is central to planning and development of the reserve;
- recreational uses and facilities are compatible with the reserve's natural and cultural values and located where they can be managed in an ecologically sustainable manner;
- the aspirations of Traditional Owners to care for and share Country and Aboriginal culture are supported;
- the reserve complements and supports the management of the adjacent World Heritage listed National Parks;

- planning for *Destination Pagoda* is based on the best available knowledge supported with new research on the area's values and community needs;
- the master plan is dependent on full reservation of the area to ensure the logic and viability of the recreational development proposals.

4.2 Protecting values while promoting tourism

Effective and nature-focused management of *Destination Pagoda* is essential to the long term economic and environmental benefits it can provide. The *National Parks and Wildlife Act 1974* gives direction on how conservation and compatible recreation can interact in state conservation areas (see Appendix B for details). The proposals in this plan have been designed according to this legislation, to protect the exceptional natural and cultural values of *Destination Pagoda* while providing a range of appropriate and diverse opportunities for heritage-based recreation. To this end, a number of

environmental constraints on recreational development have been taken into account:

- sensitive environments need protection, including swamps, pagoda formations, rare plant habitats, Aboriginal heritage features, historic sites, watercourses and cliff/escarpment/gorge areas;
- cliff/escarpment/gorge areas are also very rugged, and therefore inappropriate venues for general visitors without special skills;
- the sandy soils on most of the area are highly erodible;
- water quality and quantity must be protected within and downstream of the reserve.

These constraints do not necessarily mean that visitor facility development must avoid all these features, although in some cases this may be necessary.

It does mean that where developments are close to or may impact high-value features, then facilities should be located and designed to minimise environmental damage. The rarer the value, the more protection is required.

Here are some examples of how environmental protection and tourism can be balanced:

- It is important that visitors to *Destination Pagoda* can see and appreciate the rare, nationally endangered and beautiful swamps. Walking tracks around swamps are proposed, but in the detailed design they need to be set back to avoid harm and specify boardwalks where damp areas are traversed (to offer, say, an experience of fragrant, pink wildflowers of swamp Boronia).
- A picnic area may pose a trampling threat to streambanks, plants and water quality if it is too close to a watercourse. Any such development needs to be moved or include site-hardening at the stream.
- 'Platy' pagodas are vulnerable to rock breakage from walkers. This is also a safety issue. Visitors should not be led onto such features – unless it is deemed appropriate to provide a limited zone so that people can have contact with these remarkable formations, where the risk of a low level of disturbance is acceptable.
- The rugged escarpments and gorges are magnificent scenic attractions. They are part of the essential character of the *Destination Pagoda* landscape but also challenging and

hazardous environments unsuited to most visitors. These areas can be viewed and enjoyed by a range of visitors through the development of suitably located lookouts and walking tracks.

4.3 Aboriginal interests

Destination Pagoda will protect an important cultural landscape, with many known Aboriginal features including cave paintings, grinding grooves, occupation sites, story places and wells, and probably many more yet to be recorded, all embedded in a largely intact landscape. Aboriginal people have a long, current and ongoing attachment to this Country and all its features.

The area is widely considered to be within the traditional Country of the Wiradjuri people. Darug and Gundungurra groups

may also have an interest in the area. The Wiradjuri community in Lithgow, through the Mingaan Wiradjuri Aboriginal Corporation (WAC), seek better protection for the Gardens of Stone landscape and its important Aboriginal heritage and have expressed their broad support for *Destination Pagoda* and its aims. The Mingaan WAC has provided a statement of support which includes the following:

'offering a range of attractions to encourage extended visits'

“ *The respect for the land is paramount to ensure not only the protection of the environment but equally Aboriginal culture. Look after the land and the rivers and the land and the rivers will look after you. Our landscapes are our pages telling our story. Damage to any part is disrespectful to all our ancestors.*
(Mingaan Wiradjuri Aboriginal Corporation, November 2018)

Maiyingu Marragu Aboriginal Place near Wolgan Gap is included in the proposed state conservation area, with the approval of Mingaan WAC. Maiyingu Marragu is currently a Crown reserve surrounded by state forest, and a declared Aboriginal Place under the *National Parks and Wildlife Act 1974*. This site is of particular significance to the Aboriginal community, and Mingaan WAC is very active in protecting, managing and presenting the site to the public.

The proposals in this plan are consistent with the aspirations of the Aboriginal community for the Gardens of Stone landscape.

The Aboriginal community has expressed interest in economic opportunities, in sharing information with the broader community and in contributing to the tourism industry. There is considerable potential in *Destination Pagoda* for improved presentation of Aboriginal culture and for guided activities and other Aboriginal enterprises. Preliminary discussions with the Aboriginal community have suggested additional interpretation and loop walks in the vicinity of Maiyingu Marragu and, in the longer term, a cultural centre.

The Aboriginal community also seek ongoing opportunities to pursue cultural activities such as resource gathering and hunting in the reserve.

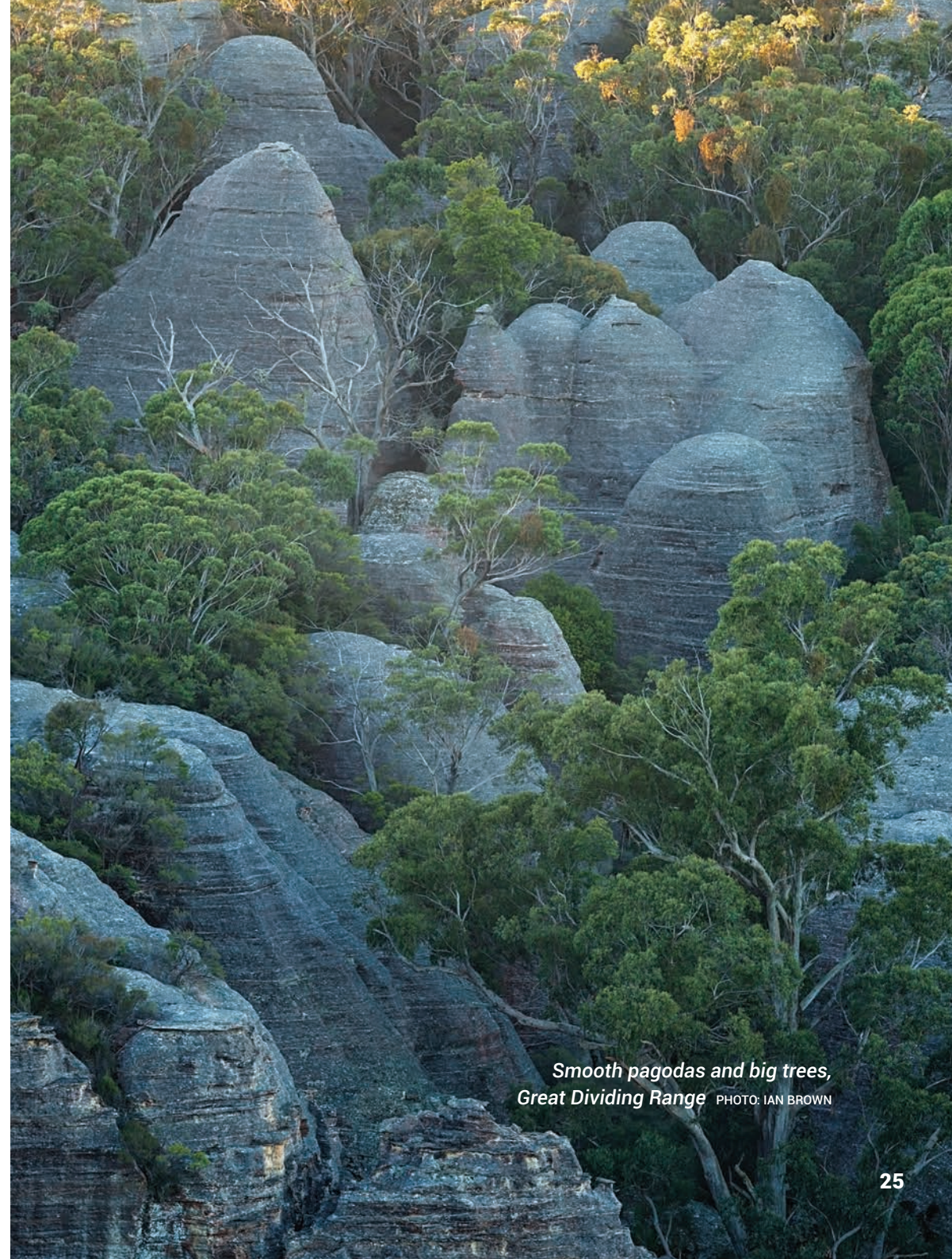
Further consultation and formal endorsement by the Aboriginal community are recommended before any official plans for *Destination Pagoda* are finalised. A joint management arrangement for the reserve should be considered.

4.4 Master Plan: bringing visitors to *Destination Pagoda*

This Master Plan for *Destination Pagoda* is a coherent program to develop an integrated pattern of appropriate visitor use. It is based upon reservation of the whole area and draws on the guiding principles, the legal framework and the Aboriginal interests in the previous section. It also considers:

- placing high use facilities closest to Lithgow to consolidate its position as the gateway to *Destination Pagoda*;
- basing experiences around Lithgow-focused road touring circuits, with precincts or nodes offering a range of attractions to encourage extended visits to multiple places within *Destination Pagoda*;
- developing family friendly easy walks and experiences (ensuring a different 'offer' than the Blue Mountains);
- encouraging educational groups by providing suitable facilities and curriculum-based material;
- not providing for higher-impact activities that can be delivered on other land tenures through local businesses;
- using existing infrastructure where possible, particularly for vehicle access;
- avoiding large scale or high impact developments;

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*Smooth pagodas and big trees,
Great Dividing Range* PHOTO: IAN BROWN



Frosted swamp, Newnes Plateau

PHOTO: IAN BROWN

- focusing on the most appealing features of the area;
- providing a range of low-impact attractions (lookouts, walks, picnic areas) across a variety of landscape types to offer diversity and to cater for a range of interests;
- focusing facilities on plateau and valley areas of gentle terrain while leaving most areas of rugged escarpment intact and undeveloped;
- catering mainly for day visitors travelling by private vehicle or in small tour groups, and using accommodation in local centres;
- showcasing the environment and history of the area;
- catering to groups with a special interest in the cultural and environmental values of *Destination Pagoda*;
- rehabilitating disturbed areas and redundant mine service roads which are not required for identified purposes.

There are eight strategic and geographic components of this Master Plan:

- the Lithgow-focused road touring circuits;
- the State Mine Gully and Lost City precinct;
- the Carne Creek precinct;
- the Birds Rock precinct;
- the Maiyingu Marragu and Long Swamp precinct;
- several other locations with minor facilities;
- rehabilitation areas;
- future opportunities.

These proposals are described in detail below and shown on the map on page 28.

Destination Pagoda a grand new tourism attraction for Lithgow

4.4.1 Road touring system out of Lithgow

Strategy

The condition of and availability of Lithgow-focused circuit roads are important considerations for Lithgow to become a tourist gateway town. While *Destination Pagoda* already has a good network of roads, lack of adequate maintenance and poor road conditions deter potential visitors. Access must become family friendly. A network of well-managed, unsealed 2WD touring routes centred on Lithgow is the strategic core of this Master Plan.

The beauty of this cost-effective concept is that the proposed 2WD touring system will utilise the existing road network to establish return and circuit drives. Along these routes, immersive, enjoyable experiences are proposed at strategic locations to encourage visitors into a deeper and longer exploration of the natural and cultural delights of *Destination Pagoda*. Together, these proposals will offer visitors a variety of full-day excursions out of Lithgow or nearby villages.

Lithgow's *Destination Pagoda* 2WD road touring circuits

The main 2WD touring network comprises the existing return route from Lithgow to Glow Worm Tunnel (in Wollemi National Park) and the Maiyingu Marragu Road which branches off the Glow Worm Tunnel Road to Wolgan Gap and then links back to Lithgow via the sealed Wolgan Valley Road to create a circuit. Key attractions are mostly short 2WD diversions from these roads, at the precincts

of Lost City, Carne Creek, Birds Rock and Maiyingu Marragu/Long Swamp.

It is proposed to seal two steep sections of the 2WD system where high use and erosion would cause rapid deterioration and high maintenance – the State Mine Gully Road up to above Dobbs Drift and the steep section of Maiyingu Marragu Road onto the plateau. The section of road from Wolgan Road into Long Swamp could also be considered for sealing, as it is damp and proposed for high use. Other roads simply need upgrading to easy 2WD use, regular maintenance and provision of adequate drainage, signage and parking areas.

Sunnyside Ridge Road to the Birds Rock turnoff is flat and is proposed as 2WD standard for access to dramatic lookouts and a walking track circuit through forests and pagodas.

The Glow Worm Tunnel Road is also worthy of particular attention, not just as an already established destination but also as an historic link with Lithgow, Newnes and railway and industrial history. With the State Mine Museum at one end and the Glow Worm Tunnel at the other, and with walking and mountain bike connections into Newnes, this drive already has a well-established railway and industrial theme. Remnants of the railway formation/cuttings and Deanes Siding along the way are easy sites to build on this theme, and old railway items and interpretation could be further provided to develop

the story and the connections. Glow Worm Tunnel Road will provide short 2WD diversions to Carne and Lurline Jack Lookouts, with short easy walks to enjoy dramatic views of Carne Creek gorge.

4WD touring routes

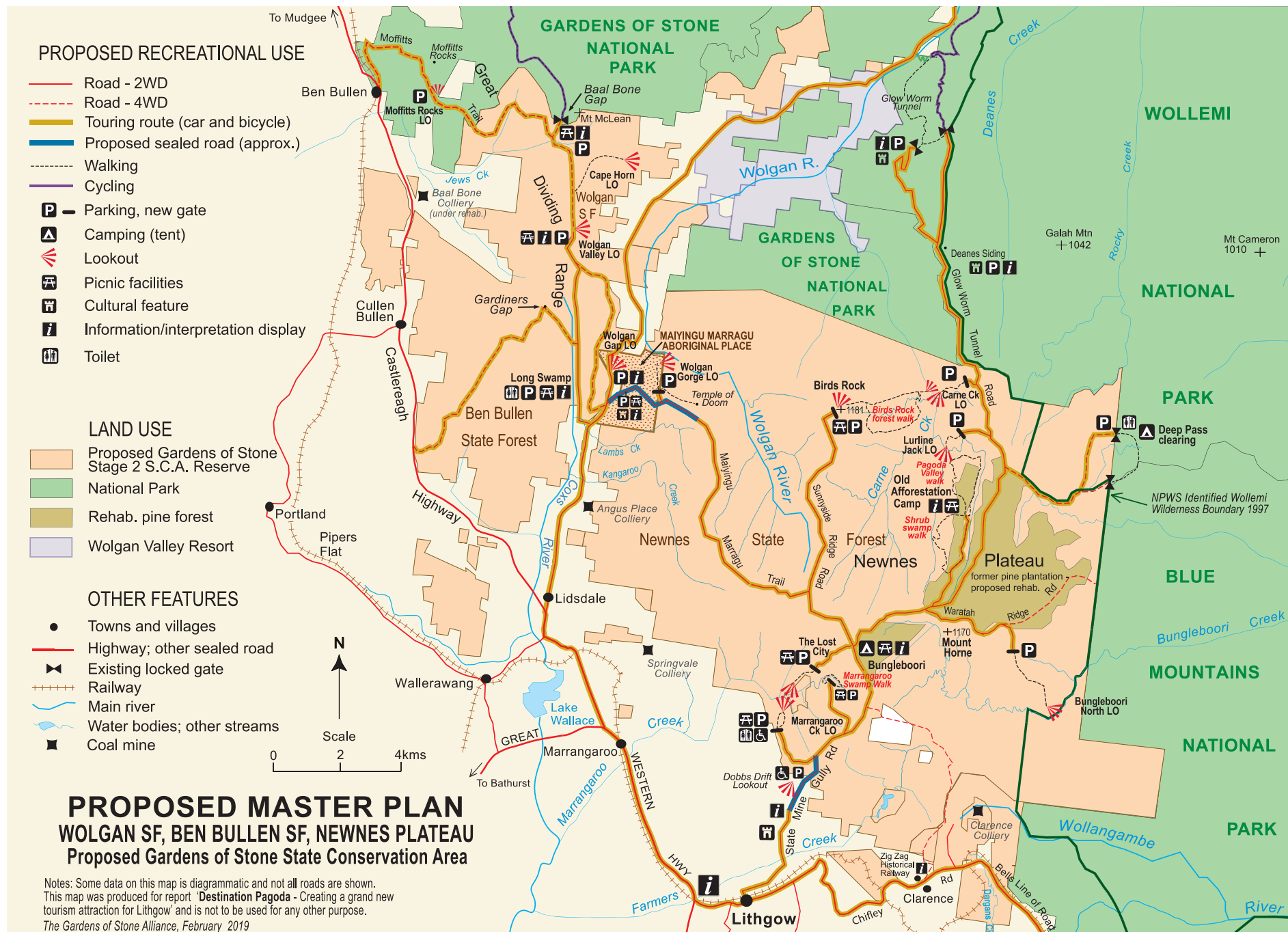
Some steeper, more challenging roads which cannot be made 2WD will be retained as 4WD touring routes. The Ben Bullen 4WD Touring Route goes from Wolgan Gap via Wolgan Valley Lookout and Baal Bone Gap to Castlereagh Highway at Ben Bullen (a through route/circuit, but the road requires reconstruction near Baal Bone Gap). A subsidiary 4WD route is via Gardiners Gap from Long Swamp to Castlereagh Highway.

In addition to the 2WD and 4WD touring routes described above, the retention of some other existing 4WD trails may also be appropriate, if they can be maintained sustainably and provide useful visitor access.

The retention of fire trails and maintenance access not included in the formalised road system would be a matter for future managers to negotiate with the underground mining companies.



**'a network of
touring routes out
of Lithgow'**



4.4.2 The State Mine Gully and Lost City precinct

Strategy

This is the easily-reached gateway precinct that introduces *Destination Pagoda* to visitors and it is a 'backyard' for the people of Lithgow. It is also the southern end of the Glow Worm Tunnel and Maiyingu Marragu Touring Routes. The facilities in this precinct are proposed to be suitable for high use, minibuses, people with mobility challenges, and for 'hero' photographic shots. Being only a short drive from Lithgow, it would supply the iconic lookout noted as desirable in Lithgow's Destination Management Plan.

Facilities

The old mine entry in State Mine Gully, with a large flat area and historic mine structures, could host a fascinating visitor entry information/orientation portal (note that this strategically important site is not within the reserve proposal and facilities will require agreement with the owners). The entry display can include interpretation on the coal-mining history of Lithgow, including an explanation of the current activities apparent on Newnes Plateau and adjoining areas.

A short distance up the road (sealed in this section), a small parking area is proposed to service the viewpoint at Dobbs Drift. From there, another a short drive on a gravel road will take visitors to a strategic viewpoint south of Marangaroo Creek. A Marangaroo Creek Lookout can be developed with expansive views to the Lost City, with toilets, wheelchair access, shady picnic areas and interpretation. It can be tucked into the

ridge-top forest to ensure a negligible visual impact on the views from the main Lost City Lookout.

The proposed Marrangaroo Swamp Walk is nearby. It will provide a short, easy circuit with views into the swamp and over pagodas.

The well-known Lost City Lookout close to the pagodas can have the current degraded access road from Bungleboori formalised to 2WD standard, with a carpark developed 500m back from the lookout. This hides the cars from the proposed Marrangaroo Creek Lookout and creates a short walk to the viewpoint. A picnic area and an information/interpretation node can be provided at Bungleboori, and visitors can also choose to walk or cycle to Lost City Lookout from there.

4.4.3 The Carne Creek precinct

Strategy

The Carne Creek Precinct is just one kilometre off the Glow Worm Tunnel Touring Route and includes several proposed experiences that could occupy visitors for a full day. The old afforestation camp (demolished) is the most strategic site for a camping area: centrally located, multiple attractions, already disturbed and with water. It is also an ideal base for mountain bike touring to the nearby attractions.

Facilities

Radiating out from a picnic area and basic camping area are: a Shrub Swamp Walk; a Pagoda Valley Walk; a Bird Walk including a hide on the old dam and, within a short drive/walk/cycle, some lookouts as dramatic as the Lost City, into the Carne Creek gorge. The camping/picnic area will include toilets and information/interpretation.

4.4.4 The Birds Rock precinct

Strategy

Birds Rock is a high, bare rock knoll with an impressive vista to the north. It is close to other attractions such as Carne Creek gorge, pagodas and the beautiful forests of Birds Rock Flora Reserve. This precinct lends itself to a node where all these can be enjoyed in a half-day visit. Most of the flat access road off the Maiyingu Marragu 2WD touring route is already maintained at 2WD standard as access to surface mine installations.

Facilities

The access road will be upgraded to 2WD standard to a small carpark and picnic area below Birds Rock. The existing vehicle track to a clifftop lookout above Carne Creek gorge will be repurposed as a walking track, with a new three-hour walking track loop off the Carne Creek track through the pagodas and forests of the current Birds Rock Flora Reserve.

**'experiences at
Carne Creek could
occupy visitors
for a full day'**



Carne Creek gorge PHOTO: IAN BROWN

4.4.5 The Maiyingu Marragu and Long Swamp precinct

Strategy

This precinct has its own special character and interest through its association with the Wiradjuri people and their heritage. Maiyingu Marragu Aboriginal Place offers a complex of natural and cultural attractions with easy access off the Wolgan Valley Road. It is the northern end of the Maiyingu Marragu Touring Route (2WD) and the southern end of the Ben Bullen Touring Route (4WD). It is also the perfect stopover between Lithgow/Wallerawang and attractions at Newnes in the Wolgan Valley: historic ruins, museum, cabin accommodation and a Wollemi National Park camping area.

Facilities

The spectacular rock art at Maiyingu Marragu is a tangible and evocative link connecting Aboriginal people to this country over many thousands of years. The local Wiradjuri people regularly undertake ceremonies here, and are managing and protecting the Aboriginal Place. The cave is accessed by a short existing walking track from the carpark. The site already has some interpretive material provided, but the custodians of the site would like to see a walk added nearby for additional cultural connections to be described.

Within this precinct and just a short drive from the Maiyingu Marragu rock art site, is Long Swamp. This is another significant Aboriginal site, being a major food source and traditional gathering space for multiple groups. The edges of Long Swamp are currently a labyrinth of potholed tracks. It is proposed that one road is formalised to 2WD standard, set back from the swamp edge along one of the existing alignments, and that the edges of the swamp are rehabilitated where necessary. An attractive grassed picnic

area, with toilets and information/interpretation would be provided at an appropriate site. The picnic area could continue as a gathering place for many people, including school excursions and it would be a place where the story of Aboriginal use and association could be shared and taught, along with the swamp's natural history.

Nearby in this precinct, the informal viewpoints at Wolgan Gap (roadside) and Wolgan Valley lookout should be upgraded. A parking area with walking tracks to a Wolgan Gorge Lookout and the 'Temple of Doom' pagodas are also proposed off the Maiyingu Marragu Touring Route.

4.4.6 Other locations

Strategy

A number of other sites offer opportunities for low-key and relatively isolated attractions, mostly single lookouts or walking tracks. These sites collectively add to the diversity of attractions in the area and extend the total amount of time visitors can spend in *Destination Pagoda*. Some would be informal, requiring minimal intervention and cost.

Facilities

Along and close to the Glow Worm Tunnel Touring Route, lookouts accessed by short walks will be formalised at Bungleboori North, with pagoda views into the Bungleboori Creek gorge, and at Lurline Jack and Carne Creek to offer spectacular views into the Carne Creek gorge. A picnic area and historic interpretation will be developed at Deane's Siding (in Wollemi National Park). A low-key viewpoint will also be provided at Cape Horn.

4.4.7 Rehabilitation areas

Parts of the reserve proposal have been disturbed by past land use and damaging recreation. These areas include an extensive network of informal and unauthorised vehicle tracks, informal campsites and a large area of past softwood plantation. Conservation-based management and enhancement of visitor experiences require that these disturbances are mapped, assessed and prioritised either to be used for a specific purpose or rehabilitated. This will be a key part of the detailed planning process in the establishment phase of the reserve.

Legitimate uses of disturbed areas could include the conversion of past trail bike tracks to walking tracks, mountain bike tracks or multiple use tracks, or siting carparks and other facilities on clearings. However rehabilitating the remaining areas will comprise a major task over a number of years.

The rehabilitation process is an opportunity for learning and skills development. It can provide local employment and research opportunities for educational institutions.

**'rehabilitation is
an opportunity for
skills development,
employment,
research and
education'**

4.4.8 Future opportunities

Several other potential developments need more detailed assessment before they can be included in a plan:

- an extended multi-day walking track through the Gardens of Stone region (additional to the Bicentennial Trail), possibly from Ben Bullen village to Bell railway station;
- adaptation of some existing informal tracks to establish a network of mountain bike touring tracks (a poorly serviced sector of the cycling market with growth potential);
 - a mountain bike trail along the old railway alignment into the Wolgan Valley to Newnes (in Wollemi National Park);
 - upgraded camping facilities at Newnes (in Wollemi National Park, but integral to visitor opportunities in the Gardens of Stone/Wolgan Valley precinct);
- an additional visitor node at Oakley Park on Farmers Creek downstream of the proposed reserve, but close to Lithgow with considerable potential to upgrade existing walking tracks.



Carne Creek gorge PHOTO: IAN BROWN

Developing Destination Pagoda: implementation and investment

It is anticipated that the Master Plan detailed above will need to be implemented over a period of at least ten years. Careful staging will be necessary. To ensure that some of the economic benefits from growing visitation are achieved as soon as possible, initial reserve establishment will need to be adequately funded, particularly 2WD circuit access. With this basic framework in place, facilities can then be steadily developed to ensure economic outcomes for the Lithgow community will grow over an extended period. Marketing and promotion will develop in tandem with infrastructure.

Substantial investment in the Master Plan is required to ensure *Destination Pagoda* delivers on its potential benefits to Lithgow's economy, the community and the environment. Investment will fund:

- visitor infrastructure to, and within, *Destination Pagoda*;
- associated marketing of *Destination Pagoda* with Lithgow as its gateway service town;
- assistance for the community to develop viable commercial services for visitors;
- rehabilitation of disturbed areas which are not required;
- ongoing management and conservation.

Preliminary estimates for investment are outlined in more detail in the following section.

**'economic
outcomes...
will grow over an
extended period'**

5.1 Infrastructure & facilities

The Master Plan above details a range of facilities. Roadworks are a critical major item, estimated at \$5.5 million (including sealed sections and maintenance/upgrade of all unsealed roads identified for public access). Walking tracks are another expensive item, but many of the proposed tracks can initially be developed to a basic but stabilised standard. Other estimated costs for specific facilities are detailed in Table 2 below. Costings include design and contingency but are subject to final planning and designs.

5.2 Rehabilitation

The first priority for rehabilitation will be the mapping and assessment of old plantation forests, clearings, tracks and trails and identifying those to be remediated. This could take two years. The

Table 2. Infrastructure costs

Precinct or site	Facilities to be developed/works required	Estimated cost
State Mine Gully	<ul style="list-style-type: none"> • Carpark (small) • Information display • Safety works • Weed control 	\$100,000
Dobbs Drift	<ul style="list-style-type: none"> • Carpark (small) 	\$50,000
Marrangaroo Creek Lookout	<ul style="list-style-type: none"> • Carpark (large) • Walking/wheelchair track (c.200m) • Lookout • Toilets • Interpretation • Rehabilitation • Marrangaroo Swamp walking track 	\$670,000
Lost City Lookout & Bungleboori	<ul style="list-style-type: none"> • Lookout • Carpark (small) & road closure • Picnic area • Interpretation • Rehabilitation of access road into walking track (c.500m) 	\$250,000
Carne Creek precinct	<ul style="list-style-type: none"> • Basic camping area • Picnic area • Toilets • Interpretation • Shrub swamp walk (c.2km) • Pagoda valley walk (c.2.5km) • Bird walk (c.400m) with hide 	\$1,530,000
Bungleboori North Lookout	<ul style="list-style-type: none"> • Carpark (small) & road closure • Rehabilitation of access road into walking track (c.1km) 	\$250,000

Lurline Jack Lookout	<ul style="list-style-type: none"> • Carpark (small) & road closure • Rehabilitation of access road into walking track (c.1km) 	\$250,000
Carne Creek Lookout	<ul style="list-style-type: none"> • Carpark (small) & road closure • Rehabilitation of access road into walking track (c.1km) 	\$250,000
Deane's siding	<ul style="list-style-type: none"> • Carpark (small) • Picnic area • Interpretation 	\$90,000
Birds Rock precinct	<ul style="list-style-type: none"> • Carpark (small) & road closure • Picnic area • Rehabilitation of vehicle track into walking track (to Carne Creek gorge – c.4km) • Birds Rock forest walk (c.3km) 	\$1,450,000
Maiyingu Marragu/ Long Swamp precinct	<ul style="list-style-type: none"> • Carpark (Long Swamp, small) • Carpark (Maiyingu Marragu, existing) • Picnic area • Toilets • Interpretation • Rehabilitation • Walking track to Maiyingu Marragu cave (existing) 	\$320,000
Wolgan Gorge Lookout	<ul style="list-style-type: none"> • Carpark (small) • Walking track to Wolgan Gorge (c.1.3km) • Walking track to 'Temple of Doom' pagodas (c.600m) 	\$650,000
Wolgan Gap Lookout	<ul style="list-style-type: none"> • Carpark (small) & lookout 	\$130,000
Wolgan Valley Lookout	<ul style="list-style-type: none"> • Vehicle control 	\$30,000
Cape Horn Lookout	<ul style="list-style-type: none"> • Vehicle control 	\$30,000
TOTAL		\$6,100,000

assessment process would lead to progressive, prioritised rehabilitation works over a longer period, perhaps an additional 10 years. Specialised project staff and contract services will be necessary.

An estimated annual budget (including one staff) of \$500,000 is required to support this program, for 10 years or more.

5.3 Enterprise development assistance and training

Visitors to *Destination Pagoda* will require a wide range of services and products. Support for new and existing Lithgow businesses to service this market will help to facilitate economic benefits for Lithgow as the reserve's gateway community. Services will include guided tours, accommodation, transport and entertainment. Products will include fuel, visitor information, food and other supplies. Potential also exists for businesses to provide more opportunities which are complementary to what *Destination Pagoda* will offer, such as camping, trail bike riding and horse riding on other lands.

Enterprise support could include training, product development, marketing and other advisory services. A key objective would be to support the development of Aboriginal enterprises that can bid for reserve management contracts and engage in the tourism industry. Support will need to continue over a number of years during the *Destination Pagoda* development phase of 10 years minimum.

Development and management of the State Conservation Area will require staff and contractors

with a wide range of skills. There is potential for training and re-training of local personnel to work in these programs.

Support and training could be delivered through partnerships with existing providers such as the Central West Business Enterprise Centre (a Commonwealth Government service) and TAFE.

This program has not yet been costed in detail as it will require careful planning by appropriate government agencies. An indicative budget of \$300,000 per year is included.

5.4 Presentation and marketing

On-ground information/interpretation is included in infrastructure costs above. *Destination Pagoda* will also need to be presented to actual and potential visitors via various media: signposting, electronic/social media, brochures and maps.

The large potential for educational activities based on the area's natural and cultural heritage needs to be addressed through appropriate training materials and liaison with institutions. An information/ interpretation plan should be developed to guide investment, products and messaging. These tasks can be undertaken by the NPWS reserve establishment team supported by an appropriate budget for contracting and other costs.

'support for new and existing Lithgow businesses'

The existing tourism planning and marketing in the Lithgow region, operated by the Lithgow City Council, is a good base to build on. *The Lithgow Destination Management Plan* (2013) already identifies a range of marketing strategies.

Marketing of *Destination Pagoda* should expand in line with the development of new facilities. Over time, with focused assistance from Destination NSW, the additional resourcing of a full-time dedicated staff person, support person and a

marketing budget, the promotion of *Destination Pagoda* would ensure a steady stream of diverse and appreciative visitors who will enjoy Lithgow. The marketing must ensure that visitors associate *Destination Pagoda* with Lithgow. Then visitors would arrive in Lithgow and enjoy the town's facilities when going on to the new state conservation area.

An estimated annual budget (including one employee) of \$400,000 is required to support this program, for up to 10 years.

5.5 Ongoing management and conservation

Once *Destination Pagoda* is reserved as a State Conservation Area, it will become the responsibility of NPWS to manage. *Destination Pagoda* will need an NPWS base in Lithgow. At least one ranger and

two field officers will be needed for day-to-day management. The transition from State Forest to State Conservation Area will require some changes to existing recreation use patterns. An on-site presence will assist this transition and build agency knowledge of the area. The substantial works required during the facility development and rehabilitation phase will require a larger project work force, which could be a combination of temporary staff and local contractors.

Protection of the reserve's conservation values is also a major priority. This work will include research, monitoring and protection of threatened species, communities and environments, pest species control, Aboriginal heritage protection and fire management.

Once development is completed, annual operating costs (including staff) for the reserve are expected to be in the order of \$800,000.

5.6 Summary of investment

Infrastructure and facilities (over 10-year-plus period)	\$11,600,000
Rehabilitation (total for 10 years)	\$5,000,000
Enterprise development assistance & training (total for 10 years)	\$3,000,000
Presentation & marketing (total for 10 years)	\$4,000,000
Ongoing management & conservation (total for 10 years, but ongoing)	\$8,000,000

Hence the total investment required for implementing this plan over 10 years or more is estimated at \$31.6 million, or \$22.2 million in present value terms (assuming a 7% discount rate).

5.7 Justifying the investment

Cost-benefit analysis is the appropriate economic framework to use when justifying any government investment. While a full cost-benefit analysis would constitute an important step in the planning and approval process, we offer the following insights from previous reports (Brown, 2009) and new developments in the region. In terms of the economic costs and benefits, the following are relevant:

- Economic costs
- Infrastructure and establishment costs (as discussed in sections 5.1-5.4)
- Ongoing management and conservation costs (section 5.5)
- Opportunity costs related to forestry and sand mining
- Economic benefits
- Recreational benefits
- Conservation and biodiversity benefits
- Reduced management costs for the Forestry Corporation of NSW

The opportunity cost of the land is minimal. As described above, mining would not be impacted by the designation as a State Conservation Area and

the Forestry Corporation of NSW currently has no plans to replant and harvest pine plantations with the last of the plantation harvested in 2015. Native forest harvesting is at a very low level. This suggests a lack of financial viability and minimal net economic benefits from the alternative use of the land as a forestry resource. The land is also currently used for low-level recreation but legal recreational activities will be enhanced by the proposed designation of the area as a State Conservation Area. Thus, the only significant and relevant economic costs are the infrastructure and ongoing costs identified in Sections 5.1-5.5.

In contrast, the economic benefits are potentially vast. There are significant heritage and conservation values arising from the remediation of the land, reduction in damaging recreational activities and the land's designation and management as a State Conservation Area. These values accrue to recreational users of the area and there are non-use, bequest and existence values. Considering only the recreational users, roughly 80% of the expected 200,000 per annum visitors would come from NSW if statistics from the Blue Mountains are used as a guide. We assume that these 160,000 users come from those already visiting the Blue Mountains or engaged in other recreational pursuits. The users' visits to *Destination Pagoda* implies that the net benefit of visiting the new and unique conservation reserve exceeds the net benefit from other pursuits. For a cost-benefit analysis to be favourable for the NSW Government, these 160,000 resident visitors would need to receive only \$20 in additional value (consumer surplus) over and above their travel costs and the benefit of alternative recreational

pursuits. Assuming a discount rate of 7% and the costs outlined above, a \$20 per visit night consumer surplus leads to a net benefit of \$280,943.

There are significant additional economic benefits. For example, the new and unique conservation and heritage values are likely to lead to additional national and international visitors to NSW. Non-use values would further enhance the economic benefits and additional people (that is, those not currently visiting the Blue Mountains) may pursue nature recreation from nearby or distant areas. Current domestic and international users may also choose to stay longer in the Blue Mountains/Lithgow region which would represent additional values to the local economy and additional consumer surplus and economic benefits. Finally, while we considered the cost of ongoing management as a state conservation area, any reduced management costs for

'the economic benefits are potentially vast'

the Forestry Corporation of NSW would be additional benefits of the proposal. A more formal cost-benefit analysis would be appropriate during planning and approval processes. However, we offer these preliminary insights from past work and based on current knowledge as an indicator of the need for further exploration.

5.8 Sources of investment

The 10-year cost of establishing and managing the new reserve is estimated at \$31.6 million, or \$22.2 million in present value terms (assuming a 7% discount rate). This investment in the future of Lithgow's economy can be funded from a combination of sources including:

- Centennial Coal's swamp offset funds of up to \$14 million currently (which is earmarked for appropriate conservation outcomes);

- grants from specific government programs, such as NSW Regional Growth and Destination NSW programs for specific reserve establishment projects that can boost Lithgow's tourism economy (e.g. lookouts);
- reductions in net government expenditures through mining company road maintenance and pest species management, and also by transfer of state forest expenditures to the NPWS;
- other funds from Commonwealth and NSW governments to support the local economy.

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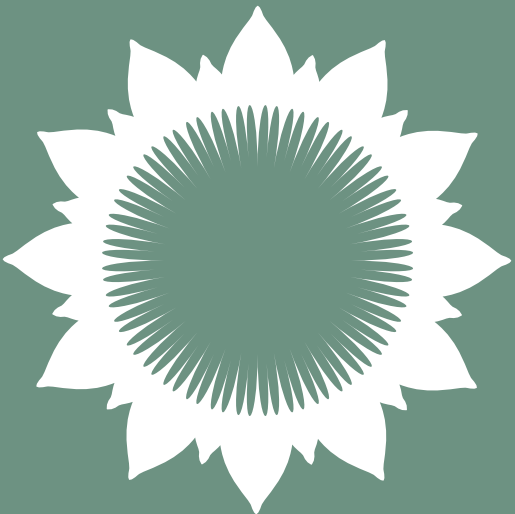
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The Lost City PHOTO: HENRY GOLD

Destination Pagoda a grand new tourism attraction for Lithgow

APPENDICES



Appendix A

Natural and cultural values of the proposed Gardens of Stone State Conservation Area

(Source: Brown, I. (2016). *The Gardens of Stone Reserve Proposal: towards National Heritage*. The Colong Foundation for Wilderness Ltd, Sydney)

The proposed Gardens of Stone State Conservation Area (GoSSCA) encompasses many significant values, including some of national and international significance.

The most important values include rare pagoda landforms, threatened high altitude peat swamps unique to the area, significant Aboriginal sites and highly restricted species such as the Giant Dragonfly, Blue Mountains Water Skink, Deane's Boronia and Pagoda Daisy.

The proposed GoSSCA would protect a unique pagoda landscape with a rich biodiversity of 33 different plant communities, at least 1000 species of plants and at least 319 vertebrate animal species. 'Platy' pagodas have been assessed to be of global rarity and significance.

As well as its biodiversity and geodiversity values, the proposed GoSSCA encompasses significant Aboriginal, historic, recreational and aesthetic values. The area is becoming increasingly well known as an especially beautiful and inspiring landscape which is also very accessible. The most

well known Aboriginal place of Maiyingu Marragu is just one of many rock art and other sites dating back thousands of years and comprising a complex cultural landscape.

The most significant historic feature is 'Blue Mountains crossing' precinct of Mount York, where the 1813 colonial explorers discovered they had crossed the 'sandstone barrier' and where a number of early roads survive.

Aesthetically, the terrain is both dramatic and intricate, often changing rapidly and surprisingly over quite short distances, especially in the pagoda and escarpment areas where the vegetation can be of low stature but of remarkable variety in colour, form and texture. One walks and weaves between the outcrops as new scenes come into view, more strange ironstone sculptures emerge and another wildflower display or gnarled gum is discovered. Narrow defiles lead round corners into overhangs, caves, ferny glades, groves of huge trees and trickling streams.

Reservation of the area would significantly extend the diversity of the existing protected areas in the Greater Blue Mountains. This is a nationally rare opportunity to complete the protection of an environmental gradient across the mountains, from the coastal lowlands, over the crest of the Great Dividing Range and onto the Central Tablelands.

The high altitude Newnes Plateau is a large area of the highest elevation sandstone terrain available in the Blue Mountains and the Sydney Basin bioregion (c. 9,000 ha above 1100m). It is a potentially vital refugium for the future, to help species cope with a changing climate.

Some of the nationally significant values are an extension of those values which are protected in the Greater Blue Mountains World Heritage Area (GBMWhA) (although not necessarily specifically listed as World Heritage). Other values are confined, or mostly confined, to the proposed GoSSCA.

Most significant values unique to, or best expressed in, the proposed GoSSCA

- **Geodiversity** – pagoda landscapes (best representation), montane sand dunes (rare), peat swamps (rare/unique).
- **Biodiversity** – rare/threatened plants (42 species), threatened fauna (42 species). EECs and other rare communities – swamps, wetlands, other communities (16 threatened and rare communities).
- **Landscape** – integration of geodiversity and biodiversity values in a landscape that is probably rare or unique nationally.
- **Aboriginal heritage** – Maiyingu Marragu (specific site of high significance).
- **Historic heritage** – Mount York historic roads (specific site of high significance).

Significant values shared by the proposed GoSSCA and GBMWhA

- **Geodiversity** – slot canyons, waterfalls
- **Biodiversity** – flora/fauna diversity
- **Natural heritage** – wilderness, scenery
- **Aboriginal heritage**
- **Historic heritage** – bushwalking conservation movement, tourism/recreation, mining

Table A1. Threatened Ecological Communities (EEC or VEC) recorded within the proposed GoSSCA, with approximate distribution

Mapped community (and source)	EEC or VEC TSC Act	EEC EPBC Act	Distribution within Gardens of Stone Stage Two
Capertee Rough-barked Apple-Redgum-Yellow Box-Grassy Woodlands (DEC 20)	White Box-Yellow Box-Blakely's Red Gum Woodland EEC	Grassy White Box Woodlands	Wolgan Valley slopes
Capertee Rough-barked Apple-Redgum-Yellow Box Derived Native Grassland (Coalpac after DEC)**	White Box-Yellow Box-Blakely's Red Gum Woodland EEC		BBSF (Coalpac area)
Capertee Rough-barked Apple-Redgum-Yellow Box Derived Native Grassland (Coalpac after DEC)*		Grassy White Box Woodlands	BBSF (Coalpac area)
Newnes Plateau Shrub Swamp (DEC 50)	Newnes Plateau Shrub Swamps EEC	Temperate Highland Peat Swamps on Sandstone	Newnes Plateau
Newnes Plateau Hanging Swamp (DEC 51)	Newnes Plateau Shrub Swamps EEC	Temperate Highland Peat Swamps on Sandstone	Newnes Plateau
Newnes Plateau Rush-Sedge-Snow Gum Hollow Wooded Heath (DEC 52)	Montane Peatlands and Swamps etc. EEC	Temperate Highland Peat Swamps on Sandstone	Newnes Plateau
Mountain Hollow Grassy Fen (DEC 53)	Montane Peatlands and Swamps etc. EEC		BBSF
Blue Mountains Swamps (BMCC)**	Blue Mountains Swamps VEC	Temperate Highland Peat Swamps on Sandstone	Western BM escarpment

Source: DEC (2006), Coalpac (2012)

* Coalpac mapped two variations of this community (derived from DEC 20), distinguished according to the differing TSC Act and EPBC Act definitions. They cannot be counted as additional EECs to the DEC 20 community.

** Some areas of this BMCC community are equivalent to the TSC Act EEC, but cannot be counted as an additional EEC to the Newnes Plateau swamp communities.

Table A2. Poorly conserved plant communities with significant representation within the proposed GoSSCA

COMMUNITY (WBM DEC 2006)	EEC
MAJOR conservation potential within GoSSCA	
Newnes Plateau Shrub Swamp (50)	Yes
Newnes Plateau Hanging Swamp (51)	Yes
Newnes Plateau Rush-Sedge-Snow Gum Hollow Wooded Heath (52) *	Yes
Mountain Hollow Grassy Fen (53) *	Yes
Tableland Mountain Gum-Snow Gum-Daviesia Montane Open Forest (14)	
Tableland Gully Ribbon Gum-Blackwood-Apple Box Forest (13)	
Tableland Hollows Black Gum-Black Sally Open Forest (15)	
Capertee Rough-barked Apple-Redgum-Yellow Box-Grassy Woodlands (20)	Yes
Tableland Gully Mountain Gum-Broad-leaved Peppermint Grassy Forest (35)	
Newnes Plateau Narrow-leaved Peppermint-Mountain Gum-Brown Stringybark Layered Forest (7)	
SIGNIFICANT conservation potential within GoSSCA	
Capertee-Wolgan Slopes Red Box-Grey Gum-Stringybark Grassy Open Forest (21)	
Hillslope Talus Mountain Gum-Brown Stringybark-Grey Gum-Broad-leaved Hickory Moist Forest (3)	
Tableland Slopes Brittle Gum-Broad-leaved Peppermint Grassy Forest (34)	
Coxs Permian Red Stringybark-Brittle Gum Woodland (37)	
Mountain Hollow Grassy Fen (53)	Yes
Tableland Gully Snow Gum-Ribbon Gum Montane Grassy Forest (11)	

Source: DEC (2006)

*These two communities are included in the TSC Act listing of "Montane Peatlands and Swamps of the New England Tableland, NSW North Coast, Sydney Basin, South East Corner, South Eastern Highlands and Australian Alps Bioregions"¹²

Table A3. Total numbers of native plant species in parts of proposed GoSSCA

Region	Area	No. native plant species	Source
Newnes State Forest	23,338 ha	814	Atlas of NSW Wildlife ¹³
Hassans Walls Reserve	770 ha	487	Lithgow & District Community Nursery# ¹⁴
Mount York Reserve*	653 ha*	220*	Gondwana Consulting ¹⁵
Ben Bullen SF	7812 ha	637	Atlas of NSW Wildlife ¹⁶

* but not all of reserve included in survey

Table A4. Number of native fauna species in State Forests within proposed GoSSCA

Area	Amphibians	Reptiles	Birds	Mammals	TOTAL
Newnes SF	17	43	171	50	281
Ben Bullen SF	9	20	104	37	170
Wolgan SF	0	1	19	2	22
Combined state forests	18	47	185	67	317

Source: Atlas of NSW Wildlife

¹² DEC (2006)

¹³ www.environment.nsw.gov.au/atlaspublicapp/UI_Modules/ATLAS_/AtlasSearch.aspx

¹⁴ Lollback et. al. (2014)

¹⁵ Gondwana Consulting Pty Ltd (2008)

¹⁶ www.environment.nsw.gov.au/atlaspublicapp/UI_Modules/ATLAS_/AtlasSearch.aspx

Table A5. Rare and threatened plants recorded in the proposed GoSSCA and specific sectors

Species	Common name	Status TSC Act	Status EPBC Act	Status ROTAP	BBSF	WVS	NP	WE
<i>Acacia asparagoides</i>		-	-	2R	✓		✓	✓
<i>Acacia bynoeana</i>	Bynoe's Wattle	E	E	3VCi			✓	
<i>Acacia flocktoniae</i>	Flockton Wattle	V	V	2VC-				✓
<i>Acacia meiantha</i> ^A		-	-	2RCi			✓	✓
<i>Acrophyllum austral</i>		V	V	2VCi				✓
<i>Alamaleea incurvata</i>		-	-	2RC-t				✓
<i>Atkinsonia ligustrina</i>		-	-	2RCa			✓	✓
<i>Boronia deanei</i> subsp. <i>deanei</i> ^B	Deane's Boronia	V	V	3VCa			✓	
<i>Caesia parviflora</i> var. <i>minor</i>	Small Pale Grass-lily	E	-	-			✓	
<i>Deyeuxia microseta</i>		-	-	3KC				✓
<i>Dillwynia stipulifera</i> ^C		-	-	3RCa			✓	
<i>Dillwynia tenuifolia</i>		V	-	2RCa			✓	
<i>Epacris muelleri</i>		-	-	3RCi			✓	
<i>Eucalyptus aggregata</i>	Black Gum	V	V	-	✓			
<i>Eucalyptus cannonii</i>	Capertee Stringybark	V	-	2VCi	✓		✓	
<i>Eucalyptus cunninghamii</i>	Cliff Mallee Ash	-	-	2RCa				✓
<i>Eucalyptus gregsoniana</i>	Wolgan Snow gum	-	-	3RCa			✓	✓
<i>Euphrasia bowdeniae</i>		V	V	2VCit				✓
<i>Genoplesium superbum</i>	Superb Midge Orchid	E	-	2RC-t			✓	
<i>Gonocarpus longifolius</i>		-		3RC-	✓	✓		

BBSF = Ben Bullen
State Forest
WVS = Wolgan Valley
slopes
NSF = Newnes
Plateau
WE = Western
escarpment

A Newnes Plateau and
Mullion Range
(Orange) only
B Newnes Plateau and
Kanangra-Boyd
swamps only
C Newnes Plateau and
Budawangs only
D Newnes Plateau-
Hassans Walls
endemic
E Blue Mountains
endemic, sandstone
pagoda landscapes
south of Capertee
River only
F Blue Mountains
endemic
G Newnes Plateau
endemic

<i>Grevillea evansiana</i>	Evans Grevillea	V	V	2VC-			✓	
<i>Hakea constablei</i>		-	-	2RCa				✓
<i>Haloragodendron lucasii</i>		E	-	2RCat			✓	
<i>Lastreopsis hispida</i>	Bristly Shield Fern	E	-	-			✓	
<i>Leptospermum blakelyi</i> ^D		-	-	2R				✓
<i>Leptospermum rupicola</i>		-	-	3RC-				✓
<i>Leucochrysum graminifolium</i> ^E	Pagoda Daisy	-	-	2R	✓	✓	✓	
<i>Leucopogon fletcheri</i> subsp. <i>fletcheri</i>		E	-	2RC-			✓	
<i>Notochloe microdon</i>		-	-	2RC-			✓	✓
<i>Olearia quercifolia</i> ^F	Oak-leaved Olearia	-	-	3RC-			✓	
<i>Persoonia acerosa</i>	Needle Geebung	V	V	2VC-			✓	✓
<i>Persoonia hindii</i> ^G	Hind's Geebung	E		2V			✓	
<i>Persoonia marginata</i>	Clandulla Geebung	V	V	2V	✓			
<i>Persoonia recedens</i>		-	-	2R			✓	✓
<i>Philotheca obovalis</i>		-	-	3RCa			✓	✓
<i>Prostanthera cryptandroides</i> ssp. <i>cryptandropides</i>	Wollemi Mint-bush	V	V	-	✓		✓	
<i>Prostanthera hindii</i>	Hind's Mint-bush	-	-	2KC-	✓		✓	
<i>Pseudanthus divaricatissimus</i>		-	-	3RCa			✓	✓
<i>Pultenaea glabra</i>	Smooth Bush-pea	V	V	3VCa			✓	✓
<i>Rupicola apiculata</i>		-	-	2RCa				✓
<i>Sprengelia monticola</i>	Rock Sprengelia	-	-	2RC-t				✓
<i>Derwentia blakelyi</i>		V	-	2K	✓		✓	
TOTALS	42	20	11	38	9	2	28	21

Table A6. Threatened fauna species recorded for State Forests within proposed GoSSCA

Species	Common name	Status TSC Act	Status EPBC Act	BBSF	WVS	NP
AMPHIBIANS						
<i>Mixophyes balbus</i>	Stuttering Frog	E	V			✓
<i>Litoria littlejohni</i>	Littlejohn's Tree Frog	V	V			✓
REPTILES						
<i>Hoplocephalus bungaroides</i>	Broad-headed Snake	E	V	✓		
<i>Eulamprus leuraensis</i>	Blue Mountains Water skink	E	E			✓
<i>Varanus rosenbergi</i>	Rosenberg's Goanna	V	-			✓
BIRDS						
<i>Xanthomyza phrygia</i>	Regent Honeyeater	E	CE		✓	
<i>Hieraaetus morphnoides</i>	Little Eagle	V	-	✓		✓
<i>Callocephalon fimbriatum</i>	Gang-gang Cockatoo	V	-	✓		✓
<i>Calyptorhynchus lathami</i>	Glossy Black-cockatoo	V	-	✓		✓
<i>Glossopsitta pusilla</i>	Little Lorikeet	V	-	✓		✓
<i>Ninox strenua</i>	Powerful Owl	V		✓		✓
<i>Climacteris picumnus victoriae</i>	Brown Treecreeper (eastern subsp.)	V		✓		✓
<i>Grantiella picta</i>	Painted Honeyeater	V	V	✓		
<i>Daphoenositta chrysoptera</i>	Varied Sitella	V	-	✓		
<i>Melanodryas cucullata cucullata</i>	Hooded Robin (SE form)	V	-	✓		✓
<i>Petroica boodang</i>	Scarlet Robin	V	-	✓	✓	✓
<i>Petroica phoenicea</i>	Flame Robin	V	-	✓		✓
<i>Lophoictinia isura</i>	Square-tailed Kite	V	-			✓
<i>Ninox connivens</i>	Barking Owl	V	-			✓
<i>Tyto novaehollandiae</i>	Masked Owl	V	-			✓

BBSF = Ben Bullen State Forest

WVS = Wolgan Valley slopes

NSF = Newnes Plateau

<i>Tyto tenebricosa</i>	Sooty Owl	V	-			✓
<i>Chthonicola sagittata</i>	Speckled Warbler	V	-			✓
<i>Melithreptus gularis gularis</i>	Black-chinned Honeyeater (eastern subspecies)	V	-			✓
<i>Pomatostomus temporalis temporalis</i>	Grey-crowned Babbler (eastern subspecies)	V	-			✓
<i>Daphoenositta chrysoptera</i>	Varied Sitella	V	-			✓
<i>Stagonopleura guttata</i>	Diamond Firetail	V	-			✓
MAMMALS						
<i>Petaurus norfolcensis</i>	Squirrel Glider	V	-	✓		✓
<i>Saccolaimus flaviventris</i>	Yellow-bellied Sheath-tail-bat	V	-	✓		
<i>Mormopterus norfolkensis</i>	Eastern Freetail-bat	V	-	✓		
<i>Chalinolobus dwyeri</i>	Large-eared Pied Bat	V	V	✓		✓
<i>Falsistrellus tasmaniensis</i>	Eastern False Pipistrelle	V	-	✓		✓
<i>Miniopterus schreibersii oceanensis</i>	Eastern Bentwing-bat	V	-	✓		✓
<i>Scoteanax rueppellii</i>	Greater Broad-nosed Bat	V	-	✓		✓
<i>Vespadelus troungtoni</i>	Eastern Cave Bat	V	-	✓		✓
<i>Myotis macropus</i>	Southern Myotis	V				✓
<i>Dasyurus maculatus</i>	Spotted-tail Quoll	V	E			✓
<i>Phascolarctos cinereus</i>	Koala	V	V			✓
<i>Cercartetus nanus</i>	Eastern Pygmy-possum	V	-			✓
<i>Petrogale penicillata</i>	Brush-tailed Rock-wallaby	E	V			✓
<i>Pseudomys novaehollandiae</i>	New Holland Mouse	-	V			✓
INVERTEBRATES						
<i>Paralucia spinifera</i>	Bathurst Copper Butterfly	E	V	✓		
<i>Petalura gigantea</i>	Giant Dragonfly	E	-	✓		✓
TOTALS	42	41	12	22	2	35

Appendix B

Legal framework

The *National Parks and Wildlife Act 1974* (section 30G) prescribes the following management principles for state conservation areas (emphasis added):

- the conservation of biodiversity, the maintenance of ecosystem function, the protection of natural phenomena and the maintenance of natural landscapes;
- the conservation of places, objects and features of cultural value;
- provision for the undertaking of uses permitted under other provisions of this Act in such areas (including uses permitted under section 47J) having regard to the conservation of the natural and cultural values of the state conservation area;
- provision for the carrying out of development in any part of a special area (within the meaning of the *Hunter Water Act 1991*) in the state conservation area that is permitted under section 185A having regard to the conservation of the natural and cultural values of the state conservation area;

- provision for sustainable visitor or tourist 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;
- provision for the sustainable use (including adaptive reuse) of any buildings or structures or modified natural areas having regard to 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;
- provision for appropriate research and monitoring.

Thus conservation and then compatible recreation are paramount. The proposals in this report have been designed to protect the exceptional natural and cultural values of a Gardens of Stone State Conservation Area, while providing a range of appropriate opportunities for diverse, heritage-based recreation. To this end, a number of environmental constraints on recreational development have been taken into account:

- sensitive environments needing protection include swamps, pagoda formations, rare plant habitats, known Aboriginal heritage features, historic sites, watercourses and cliff/escarpment areas;
- sandstone soils of the area are highly erodible;
- water quality must be protected within and downstream of the reserve.

Appendix C

Lithgow Local Government Area demographic data (2016 census)

(<https://profile.id.com.au/lithgow/highlights-2016>)

Key demographic points for Lithgow compared to regional NSW generally:

- significantly lower household incomes;
- fewer people attending university or with university qualifications;
- higher unemployment;
- higher levels of disadvantage;
- young people and families leaving the area;
- aging population.

	Number	%	Regional NSW %
Males	10689	50.7	49.2
Females	10401	49.3	50.8
Aboriginal & Torres Strait Islander people	1208	5.7	5.5
Australian citizens	18018	85.4	88.7
Eligible voters (citizens aged 18+)	14104	66.9	68.3
People over 15	17494	82.9	81.6
Employed people (over 15)	7796	92.2	93.4
	Lithgow LGA	NSW	Regional NSW
Median age	45	38	43
Couples with children	22%	32%	25%
Older couples without children	11%	10%	13%
Lone person households	30%	22%	26%
Median weekly household income	\$987	\$1481	\$1166
Households renting	23%	30%	26%
Households with a mortgage	27%	30%	29%
Overseas born	9%	28%	11%
Language at home other than English	3%	25%	6%
University attendance	2%	5%	3%
University qualification	9%	23%	14%
Trade qualification (certificate)	25%	18%	24%
Unemployment rate	7.8%	6.6%	6.3%
Participation rate (popn in labour force)	48%	59%	55%
SEIFA index of disadvantage 2016	923	1001	970

Main industry sectors of employment (2016 census)

(<https://profile.id.com.au/lithgow/industries>)

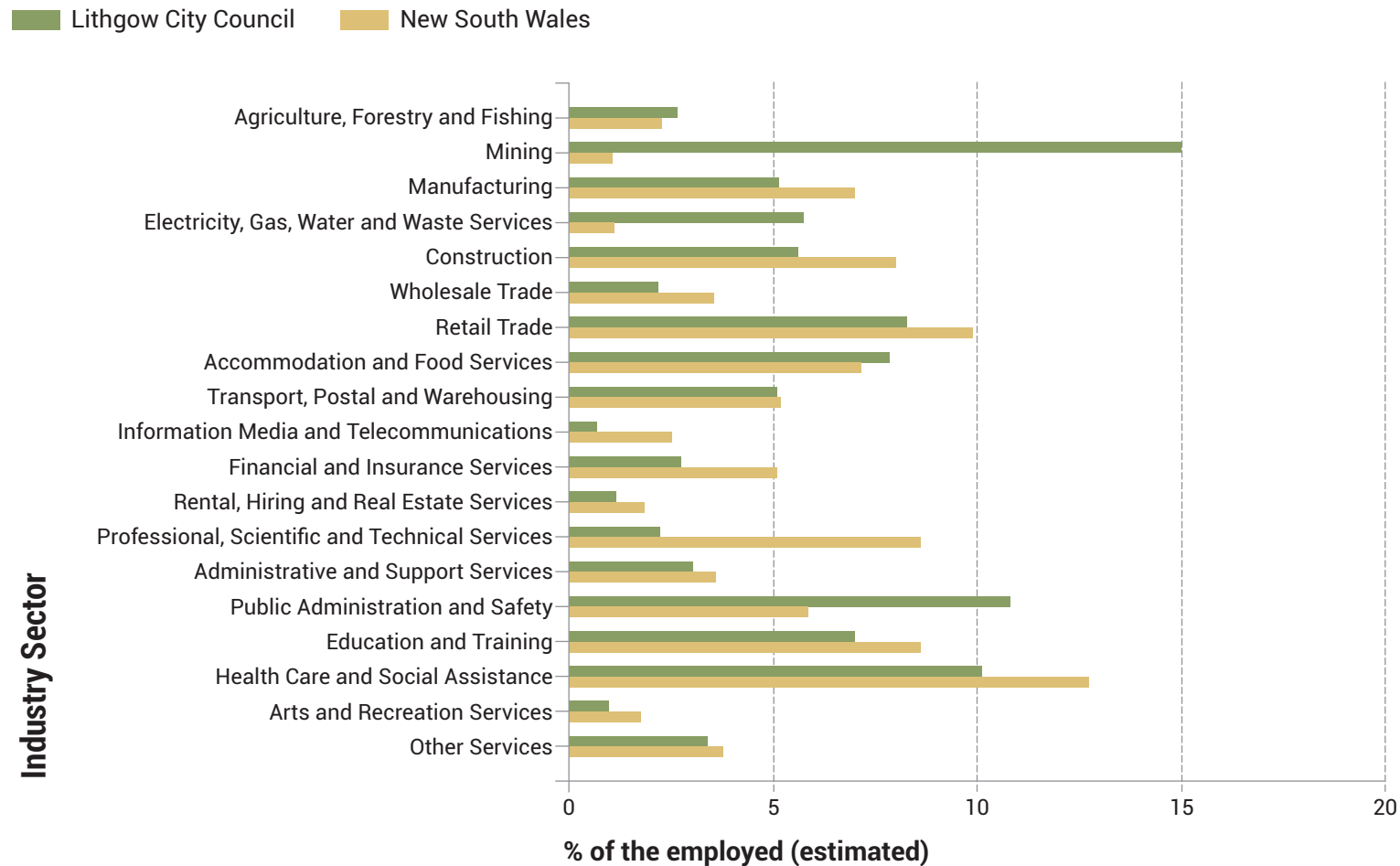
Industry sector	% Lithgow	% Regional NSW
Health care & social assistance	11.6	14.4
Retail trade	9.7	10.3
Public administration & safety	9.6	7.2
Accommodation & food services	9	7.9
Mining	8.9	2.4
Construction	6.7	8.7
Education & training	6.4	9.0
Manufacturing	5.3	6.0

(<https://economy.id.com.au/lithgow/employment-by-industry?sEndYear=2015>)

Key employment points for Lithgow compared to regional NSW generally:

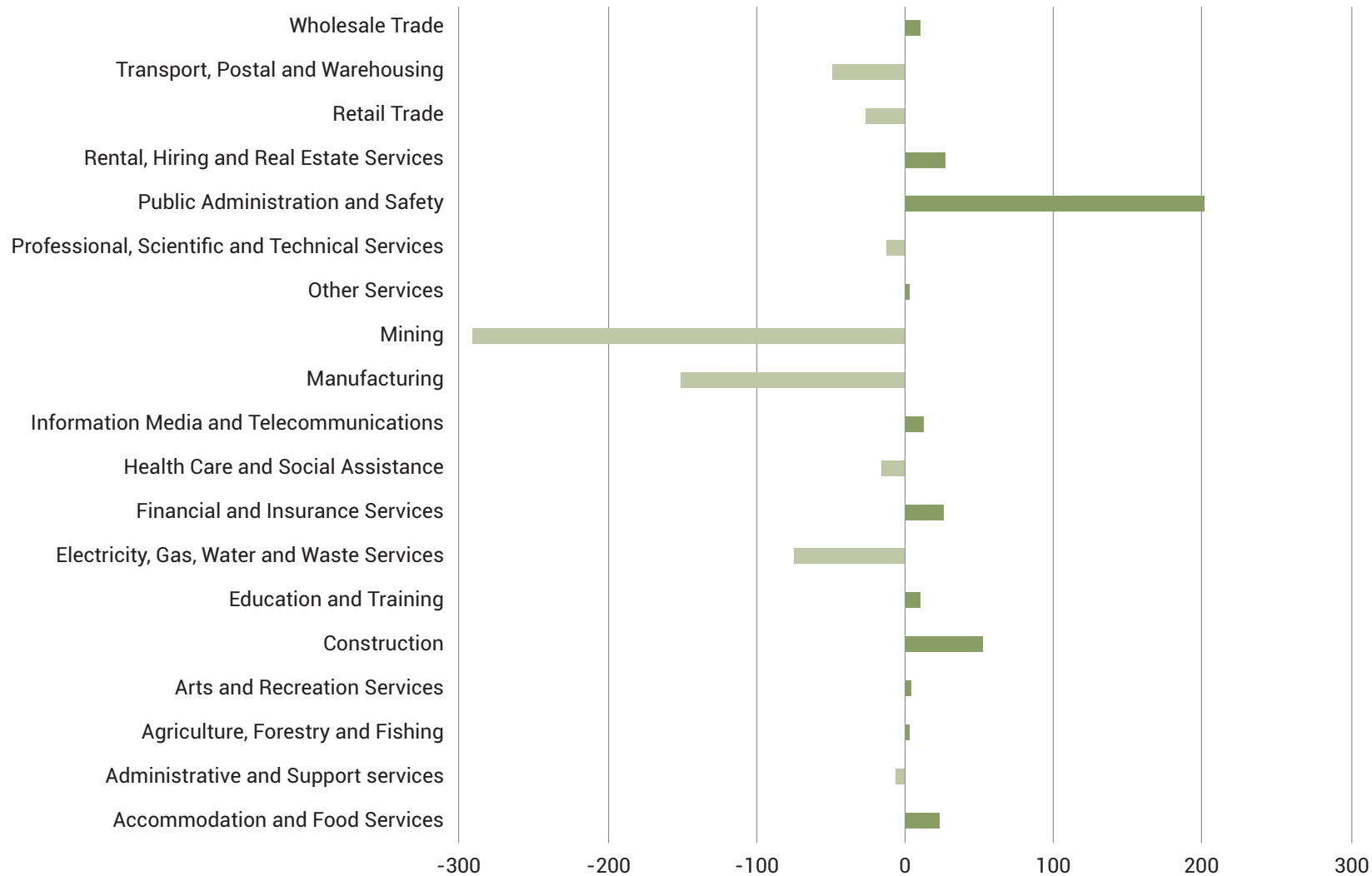
- lower proportion of employment in health care and social assistance, construction, education and training;
- higher proportion of employment in mining, public administration and safety.

Employment (total) by industry 2016/17



Source: National Institute of Economic and Industry Research (NIEIR) ©2016
 Compiled and presented in economy.id by .id the population experts

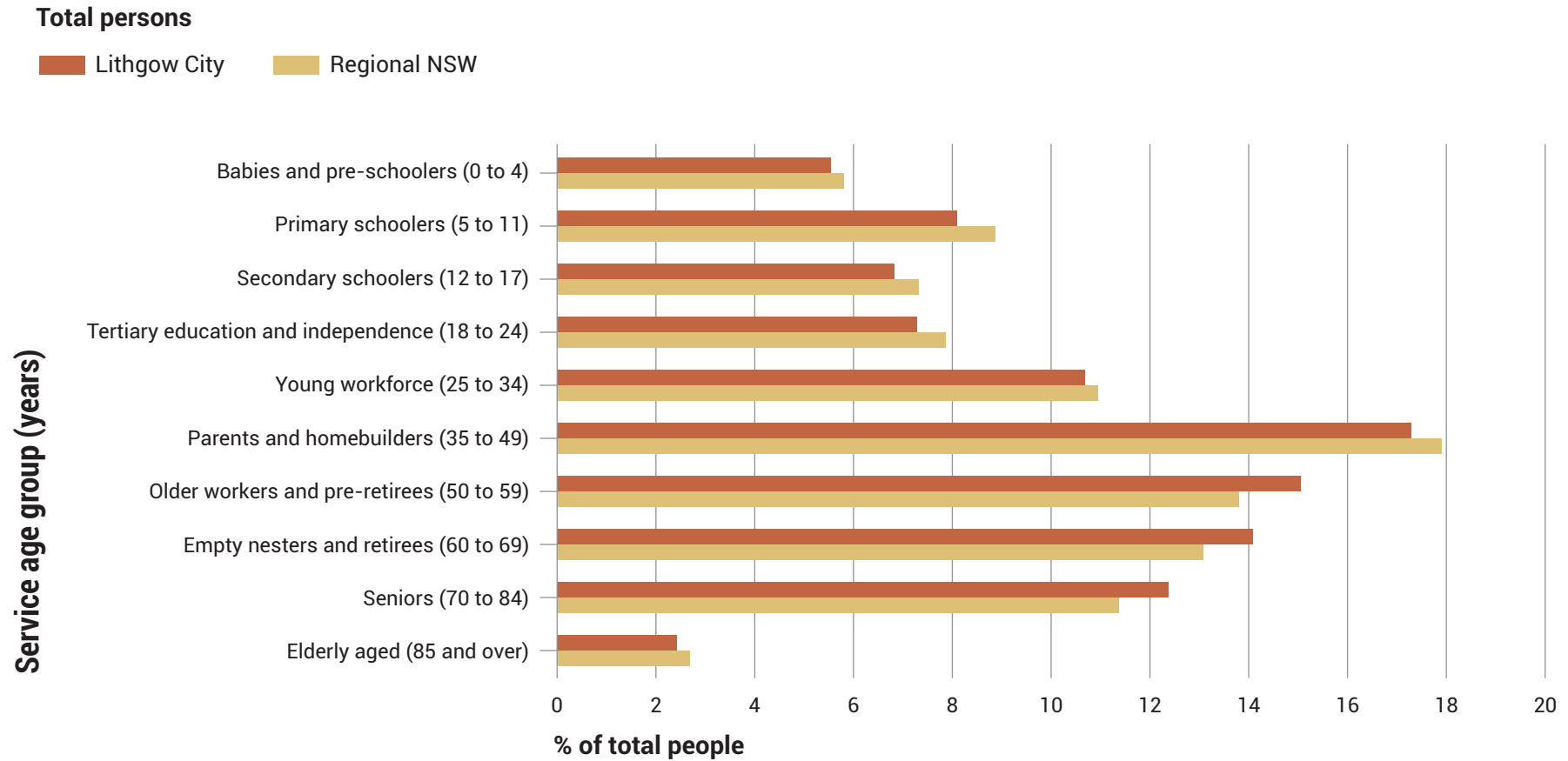
Change in employment by industry 2011-2016



Source: Roderick Campbell (Australia Institute) using ABS data from 2016 census

Age structure - service age groups, 2016

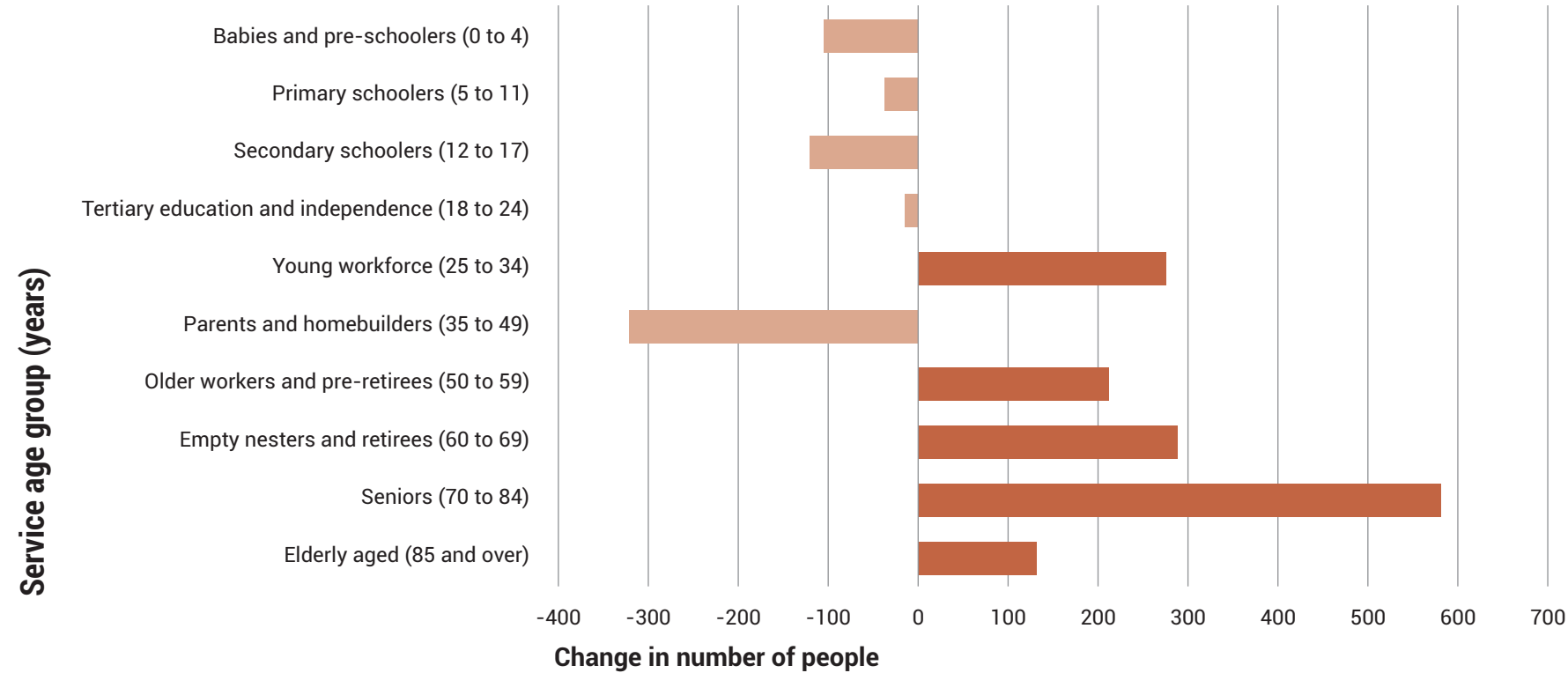
Recent demographic changes: <https://profile.id.com.au/lithgow/service-age-groups>



Source: Australian Bureau of Statistics, Census of Population and Housing, 2016 (Usual residence data). Compiled and presented in profile.id by .id, the population experts.

Changes in age structure - service age groups, 2011 to 2016

Lithgow City - Total persons



Source: Australian Bureau of Statistics, Census of Population and Housing, 2011 and 2016 (Usual residence data). Compiled and presented in profile.id by .id, the population experts.

Dominant groups

Analysis of the service age groups of Lithgow City in 2016 compared to Regional NSW shows that there was a lower proportion of people in the younger age groups (0 to 17 years) and a higher proportion of people in the older age groups (60+ years).

Overall, 20.6% of the population was aged between 0 and 17, and 29.0% were aged 60 years and over, compared with 22.1% and 27.2% respectively for Regional NSW.

The major differences between the age structure of Lithgow and Regional NSW were:

- A *larger* percentage of 'Older workers and pre-retirees' (15.1% compared to 13.8%)
- A *larger* percentage of 'Seniors' (12.4% compared to 11.4%)
- A *larger* percentage of 'Empty nesters and retirees' (14.1% compared to 13.1%)

Emerging groups

From 2011 to 2016, Lithgow City's population increased by 916 people (4.5%). This represents an average annual population change of 0.89% per year over the period.

The largest changes in the age structure in this area between 2011 and 2016 were in the age groups:

- Seniors (70 to 84) (+585 people)
- Parents and homebuilders (35 to 49) (-319 people)
- Empty nesters and retirees (60 to 69) (+292 people)
- Young workforce (25 to 34) (+278 people)

Appendix D

Lithgow tourism industry data

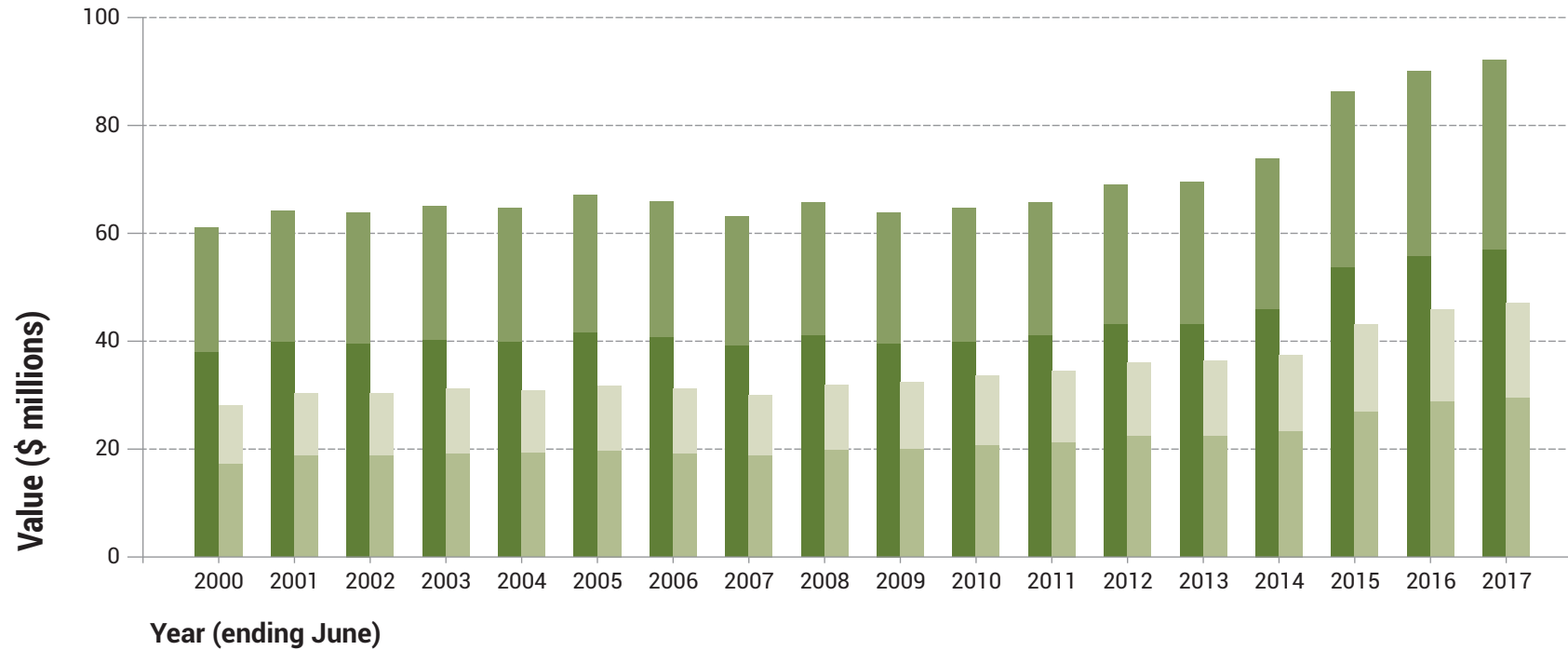
(<https://economy.id.com.au/lithgow/tourism-value>)

In 2016/17, the total of tourism and hospitality sales in Lithgow LGA was \$92m, and the total value added was \$47.2m. This represents 4.9% of total industry output in the LGA. Across NSW as a whole, tourism represents 5.9% of total industry, suggesting Lithgow is under performing with room for expansion in tourism. In the same year, tourism supported 347 direct and indirect FTE employees, representing 4.9% of all local industry employment. Tourism industry value and employment have both increased overall since 2000, but slowly and erratically, as shown in the tables below.

Value of tourism and hospitality

Lithgow City Council

Output/Sales - Direct Output/Sales - Indirect Value added - Direct Value added - Indirect

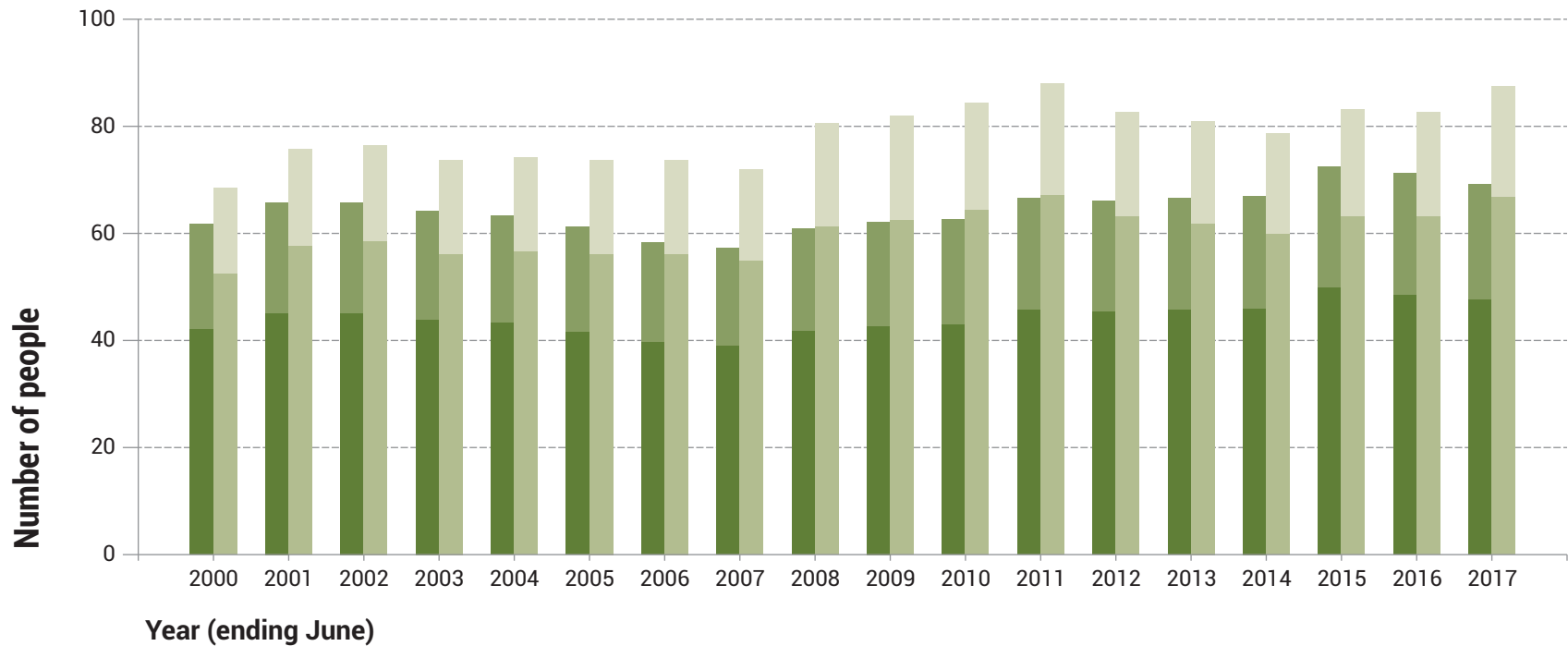


Source: National Institute of Economic and Industry Research (NIEIR) ©2016
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Value of tourism and hospitality

Lithgow City Council

Employment (FTE) - Direct Employment (FTE) - Indirect Employment (total) - Direct Employment (total) - Indirect



Source: National Institute of Economic and Industry Research (NIEIR) ©2016
Compiled and presented in economy.id by .id the population experts



Rare and threatened swampland, Newnes Plateau. PHOTO: IAN BROWN

Destination Pagoda a grand new tourism attraction for Lithgow



DESTINATION
PAGODA

a grand new tourism attraction for Lithgow

Gardens of Stone Alliance www.gardensofstone.org.au

C/- The Colong Foundation for Wilderness Ltd Level 2, 332 Pitt St, Sydney, NSW, 2000 info@colongwilderness.org.au