

Information Bulletin of the Australian Geoscience Council Inc

Geotourism, Geotrails and Geoparks A Regional Development Opportunity for Australia

Purpose

This briefing provides background information to assist state and local government agencies in assessing the potential for the development of major geotourism projects (including geoparks) within Australia.

Current Status

The Australian Geoscience Council Inc (AGC) is the Peak Council of geoscientists in Australia. It represents eight major Australian geoscientific societies with a total membership of over 8,000 individuals comprising industry, government and academic professionals in the fields of geology, geophysics, geochemistry, mineral and petroleum exploration, environmental geoscience, hydrogeology and geological hazards.

Under its current 2015-2020 Strategic Plan, as a geoscience advocacy opportunity, the AGC has decided to promote, and in association with the Geoscience Working Group (GWG), to facilitate a draft National Geotourism strategy to accommodate the orderly development of major geotourism projects and activities in line with overseas trends and domestic regional development imperatives. The GWG is a body representing all the state and territory geological surveys as well as the national Geoscience Australia agency. The AGC sees the development of a staged and incremental approach of this draft strategy as being essential to gain government endorsement at all levels. The development of a National Ecotourism Strategy in 1994 and subsequent state/territory-based initiatives is considered as a particularly useful precedent and guide. Of significance internationally is the development of geotourism in Australia that lags behind many countries' approach, notwithstanding the fact Australia has taken the initiatives in a number of areas in development of the concepts underpinning geotourism.

AGC recognises that geotourism is a significant emerging and growing global phenomenon. Geotourism has been defined by a key AGC member, the Geological Society of Australia (GSA) as 'tourism which focuses on an area's geology and landscape as the basis for providing visitor engagement, learning and enjoyment'. It has links with adventure tourism, cultural tourism and ecotourism, but is not synonymous with any of these forms of tourism, although in broad terms it actually embraces them all (Appendix A).

Geotourism can be delivered through the development of both 'geotrails' and 'geoparks'. Whilst 'geotrail' development has gained favour from governments in Australia, the same cannot be claimed to date for the establishment of 'geoparks'.

Geotrails

A geotrail can deliver geotourism experiences through a journey underpinned by an area's geology and landscape. Geotrails are therefore best constructed around routes currently used by tourists i.e. geotrails should form logical journeys linking accommodation destinations.

Geotrails can comprise roads, walking and biking trails, and disused railway easements.

Geotrails should meld the geological heritage features of a region with a cohesive story and should

incorporate and package in the biodiversity and cultural components (including mining heritage) of the region through which the geotrail traverses.

Geotrails do offer the advantages of having universal appeal, and do not compete with or impact on land management/access issues. They are relatively easy to establish and represent a very cost-effective means of enhancing regional development.

They are also an effective vehicle for promoting broader community interest in Geoscience and recognition of it as one of the four fundamental sciences along with Physics, Chemistry and Biology. As such there are long-term educational and cultural benefits in fostering the appreciation of how our Earth influences landscape, ecology, and our lifestyles.

Western Australia's Mid West Development Commission (MWDC) is working with seven shire councils to establish WA's first major geotourism development to be built on a geotrail model, focused on the Murchison sub-region of WA. The MWDC believes that the ancient Murchison geology provides the ideal platform for unique, nature-based tourism experiences of global significance, particularly to the 'experience seeker / dedicated discoverer' market. The Mid West Tourism Development Strategy (2014) concluded that the region's iconic nature-based tourist attractions were not developed to their potential and that its visitor appeal was not fully realised. The Strategy identified geotourism in the Murchison sub region as a potential 'game changing' tourism initiative, with capacity to help the region realise its potential as a major tourism destination in its own right.

More information about geotrails is detailed in Appendix B.

Geoparks

Geotourism attractions are now being developed around the world primarily as a sustainable development tool for the development of local and regional communities. A major vehicle for such development is through the concept of 'geoparks'. A geopark is a unified area with geological heritage of particular significance and where that **heritage is being used to promote the sustainable development of the local communities who live there.**

Unlike World Heritage Areas and national parks, geoparks can embrace both protected and any resource extraction areas, focusing on sustainable development objectives. Geoparks also focus on community engagement and ownership. In Australia, national parks focus generally only on biodiversity and more often than not with insufficient attention given to geological heritage.

UNESCO Global Geoparks are single, **unified geographical areas where sites and landscapes of international geological significance are managed with a holistic concept of protection, education and sustainable development.** Whilst World Heritage Areas and national parks are created in perpetuity, the status of global geoparks are reviewed by UNESCO every four years.

While a geopark must demonstrate geological heritage of particular significance, the purpose of a geopark is to explore, develop and celebrate the links between that geological heritage and all other aspects of the areas natural, cultural and intangible heritages. It is about reconnecting human society at all levels to the planet we all call home and to celebrate how our planet and its 4,600 million years history has shaped every aspect of our lives and our societies. Geoparks are both a regional development concept as well as a branding tool. They achieve these goals through conservation, education and geotourism. **Geoparks can comprise both protected and non-protected areas and enable and celebrate sustainable development of primary industries such as mining, agriculture and forestry.**

The socio-economic benefits of geopark development include the following.

1. Measurable economic benefits - additional visitors, direct and regional economic output, household income and wages, and local employment.
2. Through establishment of a management entity, higher level of centralised coordination in areas of product development, travel and hospitality services, tourism promotion/branding.
3. Maximisation of sustainable development and management of 'over tourism, an emerging issue in Tasmania.
4. Provides a framework for focus on the 10 UNESCO Topics e.g. culture, education, climate change, geoconservation, sustainable development etc.
5. Through its defined mission, community engagement is maximised and measured.

Geoparks can choose to evolve through a series of levels from 'aspiring', 'national', 'regional' (e.g. European or Asia-Pacific Regions) to 'global'. There are now hundreds of geoparks around the world. Support to individual geoparks is offered through the Global Geoparks Network Bureau which is currently representing 140 members from 38 countries. The original target of the Global Geoparks Network is establishing 500 geoparks around the world. The number is growing at a rate of about 10 new global geoparks per year. On 21st February 2019, the 4th open session of the International Geosciences and Geoparks Programme took place in Paris and determined that the new aspiring geopark applications for the UNESCO Global Geoparks to be evaluated during 2019 included 14 new applications (of which seven were from countries in our region i.e. Indonesia, Philippines, Vietnam, South Korea and China) and four were extensions to existing geoparks.

UNESCO member countries are entitled to nominate a maximum of two applications per year. During 2017, two Pre-Aspiring Global Geopark proposals had been advanced in Australia by local government authorities in Queensland (the Etheridge proposal) and in New South Wales (the Warrumbungle proposal). Under the UNESCO Global Geopark operational guidelines, applications are only accepted annually between 1 October and 30 November. Before any formal application can be made, the proponent of any UNESCO Global Geopark must submit an expression of interest, usually before the 1st of July, via the official channel as defined by the Australian National Commission for UNESCO or government body in charge of relations with UNESCO, involving, if applicable, a 'National Geoparks Committee'. In the case of Australia, the official channel is the UNESCO representative in Australia, and it is currently understood that any application needs to be reviewed by designated agencies in consultation with the Department of Foreign Affairs and Trade once approval of the respective State or Territory Governments has been obtained.

The Etheridge proposal was suspended last year because of community resistance to the concept of a geopark (perceived to be a mechanism for environmental protection) and the involvement with UNESCO (an international agency which is perceived to be seen as implementing additional levels of environmental controls and influence). After considering the views of the Geological Survey of NSW (GSNSW), the Warrumbungle project Steering Committee decided last year to abandon plans to nominate for a UNESCO Global Geopark, and instead, accept the offer of the GSNSW to assist in developing an alternative geotourism strategy for the region.

In 2018, following consultations with the national government geoscience agency, Geoscience Australia, it was recognised that a national approach was needed to better manage major geotourism projects to maximise these indicative benefits and to take account of current perceived government and community group concerns.

Geotourism Projects and the Proposed Draft National Geotourism Strategy

Currently the AGC is of the view that the establishment of a draft national geotourism strategy offers the best means of ensuring an orderly development of geotourism on the basis of having first gained government support and endorsement, recognising that each state and territory has individual needs and priorities. One of the issues under consideration is that a national geotourism strategy could establish a national set of administrative procedures for 'georegional' assessment to provide for potential geopark nomination at state and national levels (e.g. Rottnest Island Conservation area) and, as approved by governments, at a UNESCO Global Geopark level.

Recommendation for Geopark Proponents

As an interim measure until any national geotourism strategy is finalised, it is suggested that any geopark proponent should, in the early stages of geopark assessment, adopt a nomenclature which removes reference to the word 'geopark' and focus instead on communicating the concept of a 'georegion' or 'geoprovince'.

This approach offers the opportunity for proponents using the language of 'georegions' to explore various alternative options for geotourism development, including a strong focus on the establishment of geotrails between sites of geological merit as interpretive sites, including robust geoheritage sites, some of which may already have been established as geological 'monuments' or recognised in state or national geoheritage registers.

This approach will therefore involve, as a first step, a full audit of natural and cultural heritage attributes in the region as well as early discussions with state/territory based Geological Surveys, Planning and Environment agencies, and any other state/territory government agencies responsible for land and resource management.

More information about geoparks is detailed in Appendix C.

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Attachments to the Information Bulletin

Appendix A Definition and Benefits of Geotourism

In summary, geotourism

- adds considerable content value to traditional nature-based tourism (the primary motivator of travel to Australia) as well as cultural tourism, inclusive of indigenous tourism, thus completing the holistic embrace of 'A' (abiotic – landscape and geology) plus 'B' (biotic – flora and fauna) plus 'C' (culture) aspects. It empathises an approach of increasing interest to protected area managers, particularly given the experience gained from the now discontinued Australian National Landscape programme;
- celebrates geoheritage and promotes awareness of and better understanding of the geosciences - of increasing interest to geological survey organisations;
- contributes to regional development imperatives in areas experiencing social and economic difficulties through increased tourist visitation, particularly from overseas – of increasing interest to local government authorities (LGAs) and state based, regional development commissions and agencies;
- creates professional and career development for geoscientists – of particular interest to the AGC and constituent member societies;
- provides a means of highlighting and promoting public interest in mining heritage – of particular interest to The Australasian Institute of Mining & Metallurgy, the Australasian Mining History Association and the Australian Institute of Geoscientists;
- provides the means of increasing public access to geological information through a range of new information and communication technology (ICT) driven applications e.g. smartphones, drones, 3D visualisation, augmented reality etc. – of increasing interest to geological survey organisations and visitor information centres; and
- Engenders an increasing awareness of the importance in geology as a fundamental science that has had and will continue to have major impacts on civilisations.

Geotourism promotes tourism through visits to geological features (geosites), use of 'geotrails' and viewpoints, guided tours, geo-activities (such as geological time trails, fossil walks, rock gardens etc.), and patronage of visitor centres and museums. Geotourism attractions are now being developed around the world primarily as a sustainable development tool for the development of local and regional communities. A major vehicle for such development is through the concept of geoparks as exemplified by the UNESCO Global Geopark program. A geopark is a unified area with geological heritage of outstanding significance and where that heritage is being used to promote the sustainable development of the local communities who live there.

In 2013 a 'proof of concept' project promoting geoscience awareness on the Sapphire Coast of New South Wales was launched. GeoTreat, a smartphone-based application, brings to life some 19 geosites forming part of a key 'geojourney' along a section of the coastline south of Narooma and extending into Victoria (a national landscape region known as 'Australia's Coastal Wilderness').

Also, in 2013, Cartoscope Pty Ltd, a NSW tourism publication company with links to the mining and exploration industry, received a TQUAL Grant under the Tourism Quality Projects program. This grant from the Department of Resources, Energy and Tourism supported innovative, sustainable and high-quality tourism projects and enabled Cartoscope to produce some 100,000 copies of a NSW Geotourism map identifying some 96 sites in NSW which are significant geological sites, museums or tours. There are short

descriptions of the geology with map references and location flags on the map so the sites can be easily found. Both public and school teacher responses to the geotourism map and the media publicity has been very positive and has well exceeded expectations to the extent that a second edition was published and launched in 2018, and which received significant sponsorship from the NRMA, the AGC, the Geological Survey of NSW, various professional societies, Geoscience Australia, a number of Local Government Authorities amongst other sponsors.

Geotourism Resources can be located at:

- <https://www.gsa.org.au/Public/Geotourism/Public/Geotourism/Geotourism%20and%20Geotrails.aspx?hkey=754eb036-9266-452e-95b8-e135a1db04d1>
- <http://www.leisuresolutions.com.au/index.php/geotourism-industry-groups/>
- A presentation delivered to the International Workshop on the Business of Geotourism and Geoparks held in Perth on 14th May 2018 summarises a current status of 'Geotourism Developments in Australia'.
<https://www.slideshare.net/leisuresolutions/geotourism-developments-in-australia>

Appendix B Geotrails

A geotrail can deliver geotourism experiences through a journey linked by an area's geology and landscape as the basis for providing visitor engagement, learning and enjoyment.

At the SEGRA (Sustainable Economic Growth Regional Australia) conference convened in Bathurst in October 2015, the opening presentation by the workshop convenor and GSA Geotourism Standing Committee Chair addressed the development of a formative Red Centre Geotrail of which Uluru is now a global iconic attraction. Dan Cove, formerly Operations Manager of Jenolan Caves explained how geotrails can offer genuine potential for both adding new dimensions to a regional visitor experience and as a tool for encouraging extended travel time within a region. In his presentation, Ian D Lewis, Honorary Director of the Kanawinka Geotrail, illustrated how the geopark promotes rural tourism and landscape care for the many volcanoes, famous caves and coastline features across the area of Western Victoria and South-Eastern South Australia, encouraging visitors to select from a number of highway trails through the region via accommodation hubs. Ken Moule, Chief Executive of Global GBM, showed how the contribution of technology to the tourism experience, opened the way for a new regional imitative 'around map enabled' mobile apps to economically promote attractions and enhance the visitor experience.

Phil Smart, President and Founder, Gondwana Coast Fossil Walk Inc. illustrated how, that in recent years, the geotourism potential of the Ulladulla rock platforms had been developed by his team of volunteers into a successful tourist attraction. His project, including the Brodie Park Geological Time Walk, was awarded in 2016 the best tourist attraction on the NSW South Coast.

In summing up, the workshop convenor said that the concept of geotrails has provided an alternative and attractive approach to nurturing regional development by celebrating geotourism, geological and mining heritage. Geotrails can offer genuine potential by both adding a new dimension to a regional visitor experience and as a tool for encouraging extended travel time within the region.

The development of geotrails was also discussed at the Geotourism Workshop forming part of the Global Eco Conference of Ecotourism Australia held at Rottnest Island in November, 2015 <https://www.slideshare.net/leisuresolutions/global-eco2015-geotourismangusmrobinson> and the Geotourism Spotlight Session of SEGRA 2016 held in Albany, Western Australia.

Featured at the 2016 Global Eco conference, the West Coast 'Living Earth' GeoTrail, a co-venture of Mineral Resources Tasmania, Department of State Growth Tasmania, and West Coast Council is currently undergoing continuing development with work being directed at enhancing the quality of the interpretation. This geotrail, connecting the mining centres of Zeehan, Rosebery and Queenstown, currently provides information to enable visitors to understand and appreciate the geological processes and landscapes which are featured throughout the geotrail. Each site has a roadside sign, either a large sign with information and explanations, or a small sign showing the relevant QR Code web-link to the Living Earth website. <https://www.slideshare.net/leisuresolutions/the-west-coast-geotrail-by-ralph-bottrill-mineral-resources-tasmania>

In NSW, a new exemplar geotrail has been built at Port Macquarie. Supported by the Geological Survey of NSW, the geotrail is supported by on site signage, a brochure and a smartphone application. <https://www.pmhc.nsw.gov.au/Facilities-Recreation/Outdoor-Spaces/Coastal-Walk-geotrail>

All the other presentations from all SEGRA and Global Eco conferences referred to in this bulletin can be downloaded from <http://www.leisuresolutions.com.au/index.php/geotourism-industry-groups/>

Queensland's 'Dig the Tropic' <http://www.digthetropic.com.au/> is an operating example of a formative geotrail. Dig the Tropic is a themed journey linking the wonders of the Southern Great Barrier Reef with the mysteries of Queensland's Outback. Following the Tropic of Capricorn, visitors can experience a living museum created by ancient events left behind, visiting sites such as the Stone House Museum, Age of Dinosaurs Museum, Lark Quarry, the Sapphire Gemfields, Capricorn Caves and the Great Barrier Reef. Active geotrails proposals are continuing to be being implemented or considered by various government agencies and/or university groups in Western Australia (Murchison, Geraldton, and John Forrest and Meckering Geotrails), Tasmania (West Coast Living Earth GeoTrail, Furneaux Islands Geotrail), Queensland (Brisbane Valley Rail Trail, Dig the Tropics, Boulder Opal), New South Wales (Port Macquarie – now completed), South Australia (various projects including the Brachina Gorge Geotrail), Victoria (Kanawinka/Great Ocean Road area), and Norfolk Island.

In the Northern Territory, there two well defined trans-continental 'road adventures' exist as self-drive geotours. These are the Explorers Way extending from Port Augusta to Darwin, and the Savannah Way which passes East-West from Cairns to Broome through the Gulf Country, Katherine Region, Victoria River District and the Kimberleys. In addition, the Red Centre Way (formative Red Centre Geotrail) is under reconstruction with government funding. A fourth major geotrail is the largely unsealed, 'Gold Rush Way' linking the historic Arltunga and Halls Creek (WA) gold fields via the Tamani region – a known and active gold producing area.

There are also a wide range of smaller, dedicated journeys along walking tracks, old rail easements etc. being deemed suitable for development as geotrails in NSW, Tasmania, Qld, WA and SA.

NSW's 'Modern Mining Trail' concept <http://www.modernminingtrail.com.au/> represents another formative geotrail example. This is a unique opportunity to travel through Central NSW on the Modern Mining Trail and explore Australia's mining – past, present and future. The Modern Mining Trail incorporates Parkes, Bland, Orange and Cobar regions through their Visitor Centres, featuring the following modern mines: Northparkes Mines, Newcrest's Cadia Valley Operations, Peak Gold Mine (Cobar), Peak Hill Open Cut Experience, Barrick Cowal Gold Mine, and Great Cobar Copper Mine. The Modern Mining Trail region is also home to a number of tourism experiences that have linkages to history of mining and the role that modern mining plays in communities today. Attractions include: the Henry Parkes Centre, the CSIRO Parkes Radio Telescope, Peak Hill Open Cut Gallery and the Big Fish Fossil Hut, Age of Fishes Museum, Canowindra, the Golden Memories Museum in Millthorpe, West Wyalong's Barmedman Mineral Pool, West Wyalong Heritage Museum and the Bland Shire Heritage and Gold Tour, the Great Cobar Heritage Centre and associated Miner's Heritage Park and Heritage Walk.

Appendix C

UNESCO Global Geoparks

Geoparks can evolve through a series of levels from ‘pre-aspiring’, ‘aspiring’, ‘national’, ‘regional’ (e.g. European or Asia-Pacific Regions) to ‘global’. In China, there are three levels of geoparks: provincial, national and global geoparks, as well as 72 mining parks. They are all managed by local county or municipal governments under the direct supervision of the Ministry of Land and Resources. Currently, there are over 320 provincial geoparks (originally labelled as ‘scenic areas’) in China, among which 200 have already gained national status. With 37 of these designated as global geoparks (including Hong Kong Geopark) having acquired global status, China manages by far the largest number of global geoparks in the world.

A decision to establish global geoparks as UNESCO sites was taken by Member States at the 38th UNESCO’s General Conference, the governing body of the organisation, which met in Paris from 3-18 November 2015. This new branding formalises a relationship with Geoparks first established in 2001. Global Geoparks have become an increasingly important tool for UNESCO to engage Member States and their communities in the Earth Sciences and geological heritage. During the UNESCO’s General Conference, Member States also decided to endorse the statutes of a new international program: The International Geoscience and Geoparks Programme (IGGP). This allows the organisation to more closely reflect the societal challenges of Earth Science today and provides an international status to a former network of sites of geological significance.

On 18th January 2018, the New Zealand National Commission for UNESCO announced the establishment of a UNESCO Global Geoparks programme in New Zealand. The National Commission has appointed a Geoparks Expert Advisory Panel to encourage and support New Zealand nominations for UNESCO Global Geopark status and already one ‘aspiring’ global geopark nomination (Waitaki Whitestone) is currently under consideration by UNESCO.

The Global Geopark brands is a voluntary, quality label and while it is not a legislative designation, the key heritage sites within a geopark should be protected under local, regional or national legislation as appropriate. UNESCO offers support to Global Geoparks on an ad-hoc basis via requests from Member States. Geopark status at any level, including ‘global’ does not imply restrictions on any economic activity inside a geopark where that activity complies with local, regional or national legislation. The focus of geoparks is on promotion and appreciation of geological heritage, geology and landscapes. These earth heritage sites are part of an integrated concept of protection, education and sustainable development <http://www.unesco.org/new/en/natural-sciences/environment/earth-sciences/global-geoparks>

For example, in the Marble Arch Caves Global Geopark (Ireland), there are many quarries – dolomite, limestone, cement factory, and there is active exploration for shale gas, which would need to be extracted by fracking technologies. All of these operations are undertaken in compliance with Irish legislation from both jurisdictions in the country. In Gea Norvegica Global Geopark (Norway) are located large larvakite quarries which export polished ornamental stone all over the world. In Magma Global Geopark (Norway) one of their partners is Titania A/S which operates as a mining company extracting ilmenite in Norway for the European titanium pigment industry.

There are six Global Geoparks in Europe that are geoparks specifically because of their mining history, and that mining continues in some of these territories.

In summary, a geopark achieves its goals through conservation, education and tourism. It seeks to conserve significant geological features and explore and demonstrate methods for excellence in conservation and geoscientific knowledge. This is accomplished through protected and interpreted geosites, museums, information centres, trails, mine sites, guided tours, school class excursions, popular literature, maps,

educational materials and displays, and seminars. Geoparks are capable of being community driven. Geoparks stimulate economic activity and sustainable development through geotourism. By attracting increasing numbers of visitors, a geopark fosters local socio-economic development through the promotion of a quality brand linked with the local natural heritage. It encourages the creation of local enterprises and cottage industries involved in geotourism and geoproducts. The geopark concept is an iconic one, applicable across all continents. The value of the global geopark concept is explained in a journal article <https://www.geoexpro.com/articles/2017/03/unesco-global-geoparks>

An application area for a UNESCO Global Geopark has no stipulated size but its geographical boundaries must clearly embrace a contained area of land (both protected and non-protected); with private landowners having the option of not allowing geopark activities on their land, should they choose not to participate. An application area can be as large as the boundaries of a local government area (as has been the case for the Etheridge and Warrumbungle projects).

UNESCO approves a global geopark for an initial four year period, at the end of which it is reassessed for revalidation purposes to establish that it has complied with all agreed requirements and the UNESCO Global Geopark Code of Ethics <http://globalgeoparksnetwork.org/wp-content/uploads/2016/07/GLOBAL-GEOPARKS-NETWORK-CODE-OF-ETHICS-final.pdf>

The nomination procedure for UNESCO Global Geoparks requires the completion of a self-assessment document, http://www.unesco.org/new/fileadmin/MULTIMEDIA/HQ/SC/pdf/EN_UGGEvaluation_DocA_Self-evaluation_FINAL_12Feb2016_PR.xls

and the completion of a comprehensive application dossier http://www.unesco.org/new/fileadmin/MULTIMEDIA/HQ/SC/images/Application_dossier_UGG_15Dec_2016.pdf

Even if an area has outstanding, world-famous geological heritage of outstanding universal value, UNESCO has determined that it cannot be a UNESCO Global Geopark unless the area also has a plan for the sustainable development of the people who live there. To succeed, a UNESCO Global Geopark nomination, lodged by an appropriately incorporated management body, must have the support of local communities.

By raising awareness of the importance of the area's geological heritage in history and society today, UNESCO Global Geoparks provides local people with a sense of pride in their region and strengthens their identification with the area. The creation of innovative local enterprises, new jobs and high-quality training courses is stimulated as new sources of revenue are generated through geotourism, while the geological resources of the area are protected.

History of Geopark Development in Australia

1. The Kanawinka UNESCO Global Geopark Impasse

Whilst the concept of geotourism was first discussed in Australia in 1996 at an annual conference of the Geological Society of Australia, Australia's first geopark, Kanawinka, was declared in 2008 and formally announced at the Inaugural Global Geotourism Conference in Fremantle, Western Australia, in August 2008. The Kanawinka Geopark (26,910 square kilometres in area) featured recent volcanism extending from the Naracoorte Caves in South Australia into the Portland (Victoria) shoreline and north as far as Penola and Mount Hamilton. It represented the sixth largest volcanic plain in the world with 374 eruption points. The geopark was located across the two Australian states of Victoria and South Australia and was contained

within eight Shire Council areas.

However, the Kanawinka Global Geopark was unable to gain State and Australian Government approval which would have enabled UNESCO to assign 'global geopark' status on an ongoing basis. This situation was reaffirmed when Australian Government Ministers for the Environment and Heritage Council (EPHC) met in November 2009. This Council decided that after consultation with Resource Management Ministers, whilst Australian governments support geological heritage, they had significant concerns with the application of the UNESCO Geoparks concept in Australia, especially without government endorsement. It was decided that existing mechanisms are considered sufficient to protect geoheritage in Australia. The Council requested that the Australian Government advise UNESCO that Australia would not recognise the Kanawinka Geopark because of the deficient UNESCO process in declaring it. Council also requested the Australian Government ask UNESCO to take no further action to recognise any future proposals for Australian members of the Global Geoparks Network, or to further progress Geoparks initiatives within Australia, including that for the Kanawinka Geopark, unless the formal agreement of the Australian Government has first been provided. In 2012, UNESCO had no other choice but to withdraw Global Geopark designation for Kanawinka.

The former Kanawinka UNESCO Global Geopark has now been repackaged as a geotrail. Two local government authorities (Mount Gambier and Southern Grampians) have agreed to provide limited logistic support for a continuing geotrail arrangement and with added support of local community groups.

2. Overcoming Barriers to Geopark Development in Australia

In reflecting on the Kanawinka experience, back in 2008, the concept of global geoparks was clearly not supported by government planning and tourism agencies; the concept did not fit at all well into the prevailing public land management arrangements administered by government agencies.

Moreover, the concept was not embraced or understood by the geological professions, hence there was no constituency support that could be translated into political lobbying. As far as the tourism industry was concerned, geotourism was simply written off as a 'niche' interest area for those visitors interested in geology. Even ecotourism (as part of the nature-based tourism mix) was still a relatively young history with less than 20 years of development in Australia.

State/Territory Government Geological Survey organisations were also not supportive of geopark development and geotourism generally, with strongly expressed concerns about impact on access to land for exploration and mining, irrespective of UNESCO assurances that geopark development did not impact on these activities.

In response to these developments, a geoparks representative body (known as Geoparks WA Inc.) was established in 2018 with the principal object of 'supporting and promoting the development of geoparks, geotourism and geotrails in Western Australia'. There is currently no other body in place which performs a similar function nationally.

3. Geological Community Engagement: The Geological Society of Australia and the Australian Geoscience Council

Largely in response to the Kanawinka experience, but also in recognition of overseas developments in geotourism and geoparks, the Governing Council of the Geological Society of Australia (GSA) decided in 2011 to establish a formal Geotourism Sub Committee of its Geological Heritage Standing Committee. Later in early 2015, Council established a separate Standing Committee focusing solely on geotourism <http://bit.ly/2irGlem>, and over the following 12 months, arrangements were put in place to provide linkages

with two other key AGC members with significant geological membership – the Australian Institute of Geoscientists and The Australasian Institute of Mining & Metallurgy. The Institute subsequently provided strong support for the concept of geotourism and geoparks in its draft Australian Heritage Strategy of the Australian Government.

As a further development, in 2016, the AGC decided to appoint the Chair of GSA's Geotourism Standing Committee as its official expert spokesperson on geotourism.

The Geotourism Standing Committee has since moved to establish state/territory-based subcommittees with groups already established in South Australia, Tasmania and New South Wales, and under consideration in Western Australia. The GSA has also been active in promoting interest in geotourism symposia at various biennial Australian Earth Science Conventions and the 34th International Geological Congress held in Brisbane, Queensland in 2012.

In November 2018, following discussions held at the AGC Conference in October and in pursuit of its inclusion as a Geoscience advocacy opportunity under the current AGC 2015-2020 Strategic Plan, the AGC established a coordinating role with the objective of developing a draft National Geotourism Strategy under the umbrella of the AGC Advocacy Sub-committee. To accommodate the orderly development of major geotourism projects and activities in line with overseas trends and domestic regional development imperatives, the AGC sees the development of a national strategy, to be developed as a staged, incremental approach, as being essential to gain government endorsement at all levels. An expert reference group has now been formed to assist in this task.

4. Engagement with Government Geological Survey Organisations

During 2016, the Geotourism Standing Committee commenced a dialogue with the then Chief Government Geologists Committee (now known as the Geoscience Working Group - GWG), a body representing all the state and territory geological surveys as well as the national Geoscience Australia agency. This dialogue was focused on explaining the principles of geotourism and delivery mechanisms such as UNESCO Global Geoparks and geotrails. In July 2017, this body responded to the Standing Committee, noting the following operating trends in Australia relevant to geotourism development.

- The considerable interest in promoting geoheritage for public information and increased tourism revenue in regional Australia.
- The significant efforts by individual State/Territory Geological Surveys and Geoscience Australia in promoting geoheritage by publishing books, pamphlets, GIS-based apps, erecting explanatory signage etc. describing sites and geotrails.
- Collaboration between State/Territory Geological Surveys, 'parks and wildlife' agencies, member-based geoscience organisations, tourism bodies, and local governments or regional authorities in their jurisdictions to increase awareness of geo-and mining heritage generally and geoheritage sites, geotrails and areas.
- Many geoheritage sites are contained within and protected by conservation reserves and some State/Territory Geological Surveys have established small geoheritage reserves to further protect important sites.

The GWG then advised the Geotourism Standing Committee of the following views.

1. While more collaboration between interested parties would accelerate development of geoheritage benefits, the lead should probably come from local governments, regional authorities, and tourism bodies who have the most to gain from increased tourism activity.

2. Although geoheritage is not core business for Geological Survey organisations, they are willing to assist with specialist knowledge and where possible, minor funding.
3. Support could be given to the establishment of UNESCO Global Geoparks within existing conservation reserves. Outside of this protection, isolated sites and groups of related sites linked by geotrails should be the focus of geoheritage efforts.
4. Consistent with the position communicated by the EPHC, the GWG does not support the creation of UNESCO Global Geoparks without Commonwealth and State/Territory Government agreement.

As a preliminary step in considering a draft national geotourism strategy, consultations with GWG members have been resumed in early 2019 to discuss the abovementioned views in the context of considering a range of discussion topics that might underpin the foundation of any draft national geotourism strategy.

5. Engagement with the Tourism Industry through Ecotourism Australia Ltd and FACET.

Progress has also been made in gaining some support from the nature-based tourism operators. The peak nature-based tourism industry association, Ecotourism Australia Ltd (EA) established in November 2013 a new industry grouping, the Geotourism Forum, to advocate and nurture the development and growth of geotourism recognising that it is sustainable tourism with a primary focus on experiencing the earth's geological features in a way that fosters environmental and cultural understanding, appreciation and conservation, and is locally beneficial. The purpose of the Geotourism Forum is to advise EA of how best geotourism can be advanced and nurtured having regard to the EA's interest in inspiring environmentally sustainable and culturally responsible tourism.

In late 2014, EA communicated with the Hon Greg Hunt MP, the then Australian Government Minister for Environment in response to his expressed need to understand better how a coordinated review of the opportunities that could be achieved through Australia embracing the concept of geotourism and the introduction of geoparks, as well as advice that could assist government in the delineation and assessment of geopark proposals. The Minister subsequently advised EA that, after reviewing the national policy UNESCO's Global Geopark Network, he was 'positively disposed' towards Australia joining this initiative subject to a number of funding conditions. The Minister also indicated that he needed to consider how best to progress Australia's involvement in this initiative having sought the views of state and territory environment ministers and the Australian Local Government Association. It should be noted that Minister Hunt no longer has portfolio responsibility for matters relating to geopark development.

The Geotourism Forum, co-convened with the GSA Geotourism Standing Committee, a major geotourism workshop as part of the 2015 Global Eco Conference held at Rottnest Island, Western Australia, at the 2016 Global Eco Conference held in Hobart and with another workshop held in Adelaide in 2017.

At the opening address to Global Eco 2018, Adelaide, in November 2018, the Hon Ian Hunter MLC, then SA Minister for Sustainability, Environment & Conservation, stated that "geotourism is (also) an emerging market that South Australia is especially well placed to cater for, with megafauna fossils at the World Heritage Naracoorte Caves, evidence of the world's earliest animals in the Flinders Ranges, and stunning geological formations in parks like the Gawler Ranges, Vulkathunha-Gammon Ranges, and the ice-age gem of Hallett Cove right on Adelaide's doorstep."

In May 2018, in association with Geoparks WA, the Forum Advocating Cultural and Eco-tourism Inc (FACET) convened an International Workshop in Perth that focused on the business of geotourism and geoparks.

6. Engagement with Local Government/ Regional Development Agencies through SEGRA

Geotourism has been featured at annual conferences of ‘Sustainable Economic Growth Regional Australia’ (SEGRA) since 2012; with the GSA Geotourism Standing Committee and the EA Geotourism Forum convening the inaugural geotourism workshop at the 2014 conference at Alice Springs in the Northern Territory. SEGRA 2015 was held in Bathurst, New South Wales, an event which saw the genesis of the Etheridge and Warrumbungle global geopark proposals. SEGRA 2016 was convened in Albany, Western Australia, at SEGRA 2017 in Port Augusta in South Australia, and at SEGRA 2018 in Mackay, North Queensland. In August 2019, SEGRA will be held at Barooga in the NSW Riverina and arrangements are being made by the GSC for the Geotourism Spotlight Session to be coordinated by the Geological Survey of NSW with a focus on ‘public geoscience’ outreach, of which geotourism is a key component.

7. Pre-Aspiring UNESCO Global Geopark Proposals in Australia

Pre-Aspiring UNESCO Global Geopark proposals are currently those projects in Australia deemed to date undergoing assessment to obtain community and government support prior to any application being lodged with UNESCO.

The process of developing a Pre-Aspiring UNESCO Global Geopark involves an ‘on ground’ assessment of the feasibility of any proposal brought forward by any grouping including government agencies. With compelling regional development imperatives in mind, two such proposals, the Etheridge region of Far North Queensland (some 40,000 square kilometres in area) embracing the entire Shire of Etheridge; and the Warrumbungle region embracing three Local Government Areas - Warrumbungle, Gilgandra, and Coonamble located in Northwest NSW (some 27,000 square kilometres in area) have been subject to intensive assessment during 2017, following advice submitted to the Secretary General of the Australian National Commission of UNESCO advising that the ‘pre-aspiring’ nomination process had commenced. Progress achieved for these projects was reported to the 7th Global Geoparks Network Conference held in the United Kingdom in September 2016 and at the 5th Asia Pacific Network Symposium held in China in September 2017.

8. Etheridge Pre-Aspiring UNESCO Global Geopark Proposal

For the Etheridge proposal, a highly knowledgeable Geoscience and Mineral Reference Group has undertaken a considerable amount of work in defining the international significance of this region located west of the Atherton Tablelands in Far North Queensland, identifying some 20 key geosites in addition to the existing tourism attractions of Undara and Cobbold Gorge and the Talaroo Hot Springs area managed by the Ewamian Aboriginal Corporation. In addition, the reference group has developed a sophisticated GIS map of the region with smartphone connectivity, as well as excellent geological content for the proposed Savannahlander rail geotrail. A heritage specialist has also generated a fascinating overview of the mining heritage of the region.

These events have contributed to a fascinating diversity of geology, mineral resources and landscapes, which influenced the lives and customs of Aboriginal people and patterns of European settlement.

The assessment process included consultation with all key stakeholders (e.g. indigenous communities, national parks, tourism resorts) undertaking individual self- assessments; consultation with key State Government agencies; and community consultation including information bulletins, public meetings involving Shire Councillors.

The assessment identified the following natural and cultural assets.

- Geosites – In abundance with some 20 key geosites readily accessible to the public. Two geological events of Cainozoic age now feature as iconic geotourism attractions in the region, the most significant of which is the Undara Lava Tube system truly unique in the world based on consideration of age, preservation and lineal extent, as well as the geomorphological expressions within flat-lying sediments at Cobbold Gorge. Both of these landforms, as well as the other Proterozoic and Paleozoic landforms in the area proposed for the Global Geopark, have resulted in a diverse range of landforms with unique biodiversity characteristics including a rich assemblage of birdlife.
- ‘Geo villages’ – Four small townships, all with community engaged geosites (including agate, sapphire and gold fields); key established ecotourism resorts of Undara and Cobbold Gorge; and the indigenous Talaroo Hot Springs development.
- Geotrails – The Lava Tubes, Gems and Gorges Geotrail of the Savannah Way (Figure 6) with connections to nearby mining heritage locations.
- National Parks – Undara Volcanic Park and four other park areas.
- TerrEstrial Mineral/Fossil Museum– the most significant mineral museum in Queensland.
- Many heritage mining sites and small gold mining operations underscores Etheridge’s status of one Australia’s most diversified mineralised areas.

The geological (and natural and cultural heritage) assessment proved the easy part of the process. A relatively short 12-month period allowed for the assessment and nomination completion process, a decision which proved to be far too short to gain full community support.

Whilst National Parks, indigenous groups, and residents of townships were very supportive, because they understand the economic benefits of tourism, agricultural and small-scale mining groups as well as gemstone fossickers were not supportive, with a vigorous program implemented to dissuade Council from finalising the application. It was believed that the establishment of a Global Geopark upset the status quo. Issues raised were essentially fears of UNESCO control, more environmental regulation and increased levels of tourism. The labels of ‘UNESCO’, ‘Geopark’, ‘Ecotourism’ etc. raised a range of concerns and fears.

Moreover, landholders, essentially graziers with long-term pastoral leases, feared that the proposed UNESCO affiliation would result in further regulation and restrictions curbing current and future activities and potentially leading to a World Heritage Listing. Many considered that the large area of the application across the whole Shire which included large land tracts which were considered unlikely to be of interest for tourism. The use of the term ‘geopark’ which was interpreted by many to imply some form of existing or potential environmental protection (aligned to an expanded national park network). There were also fears that the UNESCO branding will generate a response by the State Government to impose an additional layer of environmental protection, even though UNESCO Global Geopark status does not imply restrictions on any economic activity within a UNESCO Global Geopark where that activity complies with indigenous, local, regional and/or national legislation. These fears were also shared by some elements of the mining industry involved in small scale mining operations.

Facing strong opposition, the proponent Etheridge Shire Council, decided not to proceed with the UNESCO Global Geopark application, and instead to establish a stakeholder Geotourism Advisory Committee chaired by the Mayor to advance geotourism using the natural and cultural assets that have so far been identified. An Alternative Geotourism Development Strategy for the Etheridge ‘Scenic Area’ has now been approved by Etheridge Shire Council which is committed to developing tourism along with agriculture and mining as the three-fold basis of their forward regional development planning.

<http://www.etheridge.qld.gov.au/documents/43741283/44162426/ESC%20Geotourism%20Discussion%20aper.pdf>

The Strategy which captures the aspirations of the pre-existing 'Unearth Etheridge' tourism strategy, providing additional natural and cultural heritage content; and through collaboration with other adjacent Local Government Agencies, establishment of strong geotrail linkages with geotourism attractions outside of the Shire. This alternative approach focused on developing an expansive principal focus on key geotourism areas within the Shire of Etheridge but to create linkages with key attractions outside the Shire utilising dedicated geotrails.

The nominated 'Etheridge Scenic Area' will now be developed as a 'defacto geopark' but is now not subject to any assessment process through UNESCO.

Emulating a program being undertaken in the United Kingdom, it is proposed that a 'geo village' approach be adopted for the Shire of Etheridge; thus, enabling individual townships to take unique ownership of any activity e.g. community operated museum which has a natural or cultural heritage characteristic. Two of the small townships (Mt Surprise and Forsayth) have strong associations with agates and gems, and another (Einisleigh) has strong mining industry heritage. The main township, Georgetown, is the location of the TerrEstrial Centre mineral and fossil museum which might benefit from even a higher level of community involvement and the recently established Peace Monument has already made its mark.

9. Warrumbungle Pre-Aspiring UNESCO Global Geopark

In New South Wales, the Warrumbungle proposal focused on the Warrumbungle National Park, which was already included on Australia's National Heritage List, a fact which in itself would seemingly pre-qualify the area as being of international geological significance. Regional Development Australia (RDA) Orana, the Warrumbungle, Gilgandra and Coonamble Shire Councils, the NSW National Parks and Wildlife Service, the Sidings Springs Observatory, and local indigenous communities were identified as key stakeholders by a project Steering Committee chaired by the Mayor of Warrumbungle Shire Council.

This heritage listed Park extends over a rugged mountainous area of sandstone plateaux and ridges and many prominent trachyte spires, domes and bluffs. The 233 square kilometres of the Park are part of the Warrumbungle Mountains, an eroded volcano of about 13-17 million years in age. In addition to its monumental scenery, the Park contains a varied complex of important plant and animal communities. In July 2016, the Park was the first within Australia to be certified as a Dark Sky Park by the International Dark Sky Association.

The remainder of the Shire areas include pastoral areas as well as native bushland such as parts of the iconic Pilliga Forest. In this instance, however, there is concern within State Government that the establishment of any designation with some form of nominal 'park' status would result in land use conflicts with interests which are anti-development in nature. The Geological Survey of NSW (GSNSW) had strongly argued that the geopark be contained only within the Warrumbungle National Park. The Department of Planning and Environment has also flagged that they would like to see a comprehensive study undertaken to establish the economic benefits of the project to be weighed up with any political risk. Although there was firm support emerging from the State Government agency - Destination NSW that a creation of a UNESCO global geopark will substantially enhance tourism visitation to the region, at its meeting in April 2018, and after considering further the views of the GSNSW, the project Steering Committee decided to abandon plans to nominate for a UNESCO Global Geopark, and instead, accept the offer of the GSNSW to assist in developing an alternative geotourism strategy for the region.

10. Conclusions Relating to Local Community Engagement for Geopark Development

Lessons have been learnt from the experience in advancing these two 'pre-aspiring' global geopark proposals. The following conclusions are offered.

1. More focus and time need to be applied to communicating the 'geo-regional' nature of geoparks. Whilst the promise of UNESCO branding offers the potential for economic benefit, it is a brand that can be seen by landholders as conveying overseas control and more environmental regulation.
2. More work is needed to overcome perceived fears about the detrimental impact of geoparks on other existing land users such as miners and other primary industry stakeholders.
3. Geopark proposals must be supported by State Government Geological Survey organisations to the extent that these organisations are prepared to commit professional geological service when it is realised that geoparks can contribute to community outreach programs of government.
4. Far more time must be allowed to gain community engagement/support to ensure geopark sustainability.

11. Agreed Key Factors for UNESCO Global Geopark Development in Australia

It is now understood that the following factors are essential requirements that need to be met to achieve Australian Government support for a UNESCO Global Geopark nomination.

1. Pre-Aspiring Geopark development needs to be state/local government agency initiated and supported.
2. A high level of community (including other land-user) engagement is essential to meet UNESCO requirements.
3. The key driver of geopark development must be focused on regional development – i.e. jobs and growth and demonstrate economic benefit to offset perceived political risk.
4. The approval of State/Territory Government Geological Surveys for individual projects is an absolute necessity, and it is hoped that the development of a national geotourism strategy might provide the mechanism for governments to evaluate major geotourism project proposals.
5. Australian Government approval for UNESCO nomination may well be achieved if state/territory government endorsement and funding is clearly established.

A presentation delivered to the International Workshop on the Business of Geotourism and Geoparks held in Perth on 14th May 2018 summarises a current status of 'Geoparks Initiatives in Australia'.

<https://www.slideshare.net/leisuresolutions/geoparks-initiatives-in-australia>

Appendix D

Engagement with the Australian National Landscapes Programme

A number of the Geotourism Standing Committee's members have been actively involved in and have championed the Australian National Landscapes (ANL) Programme because of the opportunity to promote geotourism concepts. <https://www.slideshare.net/leisuresolutions/geotourism-australias-national-landscapes-and-regional-development>

The Programme was the first time the tourism sector, nature conservation managers and tourism advocacy organisations had worked closely together to present Australia's top nature tourism experiences. The Programme facilitated coordinated tourism planning and management and provided a focus for international marketing. The Programme was delivered 'bottom up', with coordinating bodies for each ANL made up of land managers, regional tourism bodies and local government. The system is 'blind' to land tenure boundaries and in that sense, resembles the geopark structure. Three of the ANLs straddle state borders, demonstrating a unique level of cooperative management.

The Australian National Landscapes Programme included the following regions: Australian Alps (New South Wales/Victoria), Australia's Green Cauldron (New South Wales/SE Queensland border region), Great Barrier Reef and Wet Tropics area (Queensland), Australia's Red Centre and Australia's Timeless North (Northern Territory), Australia's Coastal Wilderness (New South Wales/Victoria), the Flinders Ranges and Kangaroo Island (South Australia), the Great Ocean Road (Victoria), the Greater Blue Mountains and Sydney Harbour (New South Wales), the Kimberley, Ningaloo-Shark Bay and Great South West Edge (Western Australia), and Tasmania's Island Heritage. Eurobodalla Shire lies immediately to the north of the designated 'Australia's Coastal Wilderness' National Landscape.

Unfortunately, in 2014, the two key participating Australian Government agencies advised that they had stepped back from a central coordination role and would instead encourage local steering committees and the tourism industry to further advance this concept. However, in 2017 the peak tourism industry lobby group, the Tourism and Transport Forum Australia, has released a white paper extolling the virtues of the ANL programme, a move that can only assist in promoting the development of geotourism.

Appendix E

Australia-China Memorandum of Cooperation

In June 2016 a Memorandum of Cooperation between the Geological Society of Australia and the Geological Society of China was executed. This Memorandum of Cooperation seeks to promote better understanding and closer cooperation between the two associations for the promotion and advancement of geotourism. At this stage, it is proposed that any co-operation agreement could embrace areas of activity which could include

- growing and enhancing the level of best practice 'nature-based' tourism in both China and Australia;
- progressing protection, conservation and presentation of the geoheritage of natural and mixed protected areas, geoparks (in China), national parks and reserves (in Australia); Australian National Landscapes and areas on the World Heritage List (as defined in the World Heritage Convention 1972) areas (both countries);
- exploring opportunities to promote ecotourism and geotourism;
- raising the profile of China and Australia as world- leading 'nature-based' tourism destinations;
- exploring other co-operative projects such as participation in conferences; and
- fostering the development of 'sister park' relationships between China and Australia.

On 9th December 2017, a historic Memorandum of Cooperation embracing a 'sister park' arrangement was signed between the Zhijingdong Cave UNESCO Global Geopark and the Jenolan Karst Conservation Reserve. The Reserve's Administrator, also a member of the GSA Geotourism Standing Committee, executed this agreement during his visit to the spectacular karst landscape in Guizhou Province in south-west China. The Reserve looks forward to sharing information and management practices, receiving delegations and greater numbers of visitors from China and negotiating possible staff exchanges.

It is realised that a number of Chinese UNESCO Global Geoparks are now keen to develop 'sister park' arrangements with key scenic landscape regions in Australia.