



The Northern Territory Parks Masterplan 2022-52 will provide a clear vision for the future of the Territory's parks and reserves over the next 30 years.

Conserving the Territory's natural landscapes and cultural values for future generations is an essential component of planning for the future. The plan will map out ways to enhance visitor enjoyment and community engagement, as well as activating business and economic opportunities.

Australian Geoscience Council Inc. Response to the Northern Territory Parks Masterplan 2022-52 Consultation Paper

Prepared by the Australian Geoscience Council Inc (AGC), the Peak Council of geoscientists in Australia. It represents eight major Australian geoscientific societies (including the Geological Society of Australia - GSA and The Australasian Institute of Mining and Metallurgy – The AusIMM) with a combined membership of over 8,000 geoscientists comprising industry, government, and academic professionals in the fields of geology, geophysics, geochemistry, mineral and petroleum exploration, environmental geoscience, hydrogeology, geomorphology, and geological hazards.

National Geotourism Strategy

Launched by the AGC in April 2021, the National Geotourism Strategy (NGS) <https://www.agc.org.au/geoscience-in-australia/geotourism/> has been developed to support the orderly development of major geotourism projects and activities in line with overseas trends and domestic regional development imperatives. The AGC sees the articulation of a strategy with a staged and incremental approach as being essential to ultimately gain government endorsement at all levels. The NGS has been presented to the Geoscience Working Group (GWG), which comprises the heads of all of Australia's government geoscience organisations, including the Geological Survey of the Northern Territory. The GWG has very recently expressed 'in-principle' support for the goals of the NGS with a desire to be kept aware of the progress of strategy implementation and for assisting with promotion of the Strategy where it falls within a jurisdiction's mandate to do so.

Geotourism adds considerable content value to traditional nature-based tourism (the primary motivator of travel to Australia) as well as cultural tourism, inclusive of Aboriginal tourism, thus completing the holistic embrace of 'A' (abiotic – landscape and geology) plus 'B' (biotic – flora and fauna) plus 'C' (culture) aspects.

The development of a National Ecotourism Strategy in 1994 and subsequent state/territory-based initiatives (e.g., the NT's Tourism Industry Strategy 2030) is considered as a particularly useful precedent and guide. Of significance internationally is that geotourism is booming, whereas the development of geotourism in

Australia lags many countries' approach, notwithstanding the fact Australia has taken the initiatives in several areas in development of the concepts underpinning geotourism (e.g., geotrails).

The pursuit of geotourism offers the potential for new industries and employment opportunities through the development of major projects within Australia. This potential was outlined in a recent submission to Austrade's discussion paper (*Reimagining the Visitor Inquiry*) <https://bit.ly/3tX5W0b>

It is recognised that this objective can be achieved if the NGS is structured to deliver and interpret for the traveller or visitor, quality natural heritage content, highlighting geology and landscape. A recent intervention by the GSA, in compiling along these lines a submission to Parks Australia for the Draft Kakadu Tourism Plan 2020-2030, underscored the need for this level of work to be undertaken across Australia when opportunities exist to comment on future tourism strategies for Australia's large network of national parks.

The benefits of geotourism development in Australia are many.

Tourism Industry development benefits in the context of addressing the current COVID-19 pandemic can be realised through the holistic approach of geotourism which enhances the value of traditionally structured, nature-based tourism by generating new product development (i.e., including geology, landscape, flora and fauna, as well as cultural heritage attributes, both Aboriginal and post European settlement).

Employment benefits through the adoption of a strategy to support and promote geotourism include the following, all of which have the potential to significantly improve Aboriginal employment, and more broadly, regional employment.

- New domestic employment and consulting opportunities for natural/cultural heritage professionals – design of interpretation signage/boards, design of geotrails etc.
- Management roles in geoparks and mining parks, regional development, and local government agencies.
- Flow-on employment in tour operations and townships resulting from increased tourism visitation.
- Opportunities for pastoralists to develop 'farm stay' and 'station stay' tourism operations.

Societal benefits for local communities, particularly in rural and regional Australia, include the following.

- A mechanism for celebrating and raising awareness of mining heritage, past and present.
- An opportunity to enhance community engagement and build value into 'Social Licence' considerations.
- By celebrating geological heritage, and in connection with all other aspects of the area's natural and cultural heritage (and most significantly, Aboriginal heritage), geotourism enhances awareness and understanding of key issues facing society, such as using our Earth's resources sustainably.
- By raising awareness of the importance of the area's geological heritage in society today, geotourism gives local people a sense of pride, and strengthens their identification with their region.

The NGS acknowledges the need to protect the scientific and cultural sensitivity of some geoheritage and geosites, and to ensure protection from geotourism where appropriate.

In summary, the over-riding socio-economic benefits of geotourism are measurable economic outcomes through enhancement of traditional nature-based tourism - additional visitors, direct and regional economic output, household income and wages, and local (including Aboriginal) employment.

This strategy will support the economic benefit by:

- Establishment of a higher level of central coordination in areas of product development, travel and hospitality services, and tourism promotion, with a view to improving the overall visitor experience, consistency of the branding, and ultimately leading to an increase in visitor numbers.
- Maximisation of sustainable development and management of 'over tourism'.
- Establishment of a framework for focus on the 10 UNESCO Topics including culture, education, climate change, geoconservation etc.
- Maximisation of community engagement.

Geotourism can be readily delivered through the development of both the mechanisms of 'geotrails' and 'geoparks', now becoming increasingly sought after as part of the nature-based tourism experience. In fact, there are 169 UNESCO Global Geoparks, many of which are now located in the Asia Pacific Region, particularly China, Indonesia, Iran, Japan, Malaysia, South Korea, Thailand, and Vietnam, with geotrails also being developed throughout Australia e.g., Warrumbungle National Park.

https://www.youtube.com/watch?v=_V1oZeqdUg0

Looking beyond the COVID-19 pandemic, discernible changes in visitor needs and behaviours are starting to emerge. e.g.,

- An increased interest in nature-based activities, evidenced anecdotally from observations in overseas geoparks.
- A shift from large group to small (family) group tours and free and independent travellers (FITs).
- A move to patronising tourist destinations 'close to home'.
- An increased usage and dependence on the internet for purchasing and information gathering purposes.
- A higher level of interest by governments to create employment opportunities and to support regional tourism.

The consideration of well-considered proposals underpinning the NGS is timely and is likely to be well received by governments, the tourism industry, and regional communities across Australia.

The NGS has seven strategic goals, all of which are considered highly relevant to the future implementation of the NT Parks Masterplan over the next 30 years and beyond. These span pathways for identifying and implementing major geotourism projects, to the development of digital platforms to provide information for travellers on geological features in the landscapes embraced by NT Parks. The Strategy will link three 'geos' – recognising their significant geoheritage and establishing new geotrails within and between various NT Parks that are suitable for various styles of geotourism.

Key documents relating to the launch of the Strategy can be downloaded.

- National Geotourism Strategic Goals https://www.agc.org.au/wp-content/uploads/2021/04/AGC_nationalgeotourismstrategy_strategicgoals.pdf
- Media Release, Launch of the National Geotourism Strategy, 7 April 2021 https://www.agc.org.au/wp-content/uploads/2021/04/AGC_Geotourism_media-release_7-April-2021.pdf

Australian Geoscience Council Inc.

Response to the Northern Territory Parks Masterplan 2022-52 Consultation Paper

- Media Release Explanatory Notes and Contact Details for Participating in Working Groups
https://www.agc.org.au/wp-content/uploads/2021/04/AGC_Geotourism_media-release-explanatory-notes_7-April-2021.pdf

Responses to Specific Themes of the Discussion Paper

Real Projects – 10 Year Activation Plan

From a geotourism perspective, the following considerations are recommended for framing and shaping projects within each of the three parks systems (i.e., Top End Parks, Central Australia Parks, and Gulf Savannah Parks) over this identified period.

- **Capturing the domestic travel opportunity**

The early adoption of geotourism (holistic nature-based tourism incorporating cultural elements) as a basis of new product development will deliver a superior tourism experience and encourage domestic tourists (local and interstate to spend more time within the NT's parks and reserves.

- **Diversifying the NT international customer base**

By encouraging the introduction of geotourism based products and experiences that are well developed and well understood within core international markets e.g., China, Europe and increasingly in other parts of the Asia Pacific region replete with other geotourism experiences.

- **Labour, skills, and workforce**

Geotourism can provide new domestic employment, particularly for Traditional Owners and consulting opportunities for natural/cultural heritage professionals – design of interpretation signage/boards, design of geotrails etc, as well as management roles in national parks.

- **Innovation: digital and new products**

In developing the NGS for Australia through **the implementation of Goal 1**, the AGC has recognised that state-based geotourism maps, supplemented by publications, may well be eventually replaced by digital technologies (e.g., 3D visualisation, augmented reality, virtual reality, holograms, and live streaming using smartphones and drones) and GIS technologies as a cost-effective means of accessing and better communicating geological content for tourists throughout the NT.

There exists a major challenge to structure digital frameworks which capture and interpret key elements of natural and cultural heritage sourced from a wide range of directories, and which define the holistic nature of geotourism, having regard to the process of digital transformation which is impacting on all industries. The imperative driving this goal will be meeting consumer needs, particularly from international visitors, now increasingly accustomed to the use of digital devices to underpin all aspects of their tourism experience.

Moreover, it is recognised that these technologies provide a means of interpreting geosites (including sites of cultural significance) where measures need to be put in place to protect geological heritage or have regard to indigenous cultural sensitivities.

Later in the year, under the auspices of the NGS, a project team will undertake the development of a pilot geotrail at Standley Chasm - Angkerle Atwatye (within Tjoritja West MacDonnell National Park). This will include a scoping assessment for the application of supporting digital technologies.

More information about what Goal 1 sets out to achieve relating to virtual and augmented reality experiences are explained in the following two video presentations to a recent Earth Sciences (AESC 2021) conference.

- <https://www.youtube.com/watch?v=GzhjHq4XQ7Q&t=5s>
- https://www.youtube.com/watch?v=KqC_r7esrj0

The application of digital tools in recent geotrail development in New South Wales is outlined in the following two video presentations.

- Warrumbungle National Park Geotrails https://www.youtube.com/watch?v=_V1oZeqdUg0
- NSW Geological Survey <https://www.youtube.com/watch?v=Fkdbez3Meh8>

Recent developmental work in support of the Flinders Ranges WHA nomination from South Australia highlights the use of virtual reality <https://www.abc.net.au/news/2021-06-13/flinders-ranges-virtual-reality-tour-supports-world-heritage-bid/100211820>

The following link details an interesting example of a virtual tour from Rottnest Island, Western Australia <https://storymaps.arcgis.com/stories/cbdd7359caea436aa84e4153c41583fa>

In another prime geotourism location (the Ku-ring-gai GeoRegion of New South Wales), drone technology has been used to highlight coastal geomorphology and sedimentary rock features <https://www.youtube.com/watch?v=holu30ie8OE>

Recreational Futures

In developing the NT Parks 30 Year Masterplan, it is recognised that the establishment of localised geotrails within each of the designated national parks and regional geotrails that can provide links between these parks represents a logical structure for the implementation of the Masterplan.

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 where they may exist within the NT https://www.railtrails.org.au/trails/?trail_state%5B%5D=83

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.

The potential for geotrail development throughout Australia, including in the NT, is the primary focus of a dedicated working group within the National Geotourism Strategy. This group has strong expertise and can assist with and advise on geotrail development within NT National parks. Although completed in a

commercial context, so not necessarily endorsed by the NGS, some good initial work has already been completed in relation to geotrail development in the NT – the reader is referred to the following documents.

- *'The roles of geoheritage and geotourism in advancing the heritage and tourism industries of the Northern Territory'* is addressed by Mark Asendorf in his 2019 analysis <https://bit.ly/3zj91Jh>
- A further analysis is provided in Mark Asendorf's overview *'Ancillary factors impacting geoheritage and geotourism in the NT'* <https://bit.ly/2FOjyGA>

Biodiversity and Geodiversity

Whilst biodiversity values are well recognised in the discussion paper, the geodiversity values are only superficially referenced. However, it is understood that a parallel submission to this discussion paper from the GSA will provide more insights in this regard.

A revised global framework for the application of criterion (viii) of the World Heritage Convention as it applies to World Geological Heritage has recently been released by the IUCN <https://portals.iucn.org/library/sites/library/files/documents/2021-025-En.pdf>

Geodiversity provides many essential ecosystem services, e.g., surface and groundwaters, soils, rock weathering and carbon sequestration, habitat diversity. Geodiversity in the form of landscapes also provides many key tourist attractions. Geodiversity is also an essential element of Aboriginal culture, with landscape respected as an ancestor.

It is recommended that this document's analysis and findings be carefully reviewed by NT Parks to gain a better appreciation of the importance of geodiversity in the overall natural heritage framework.

Specialist geoscientific advice can

- identify geoconservation values and threats to those values;
- devise strategies to mitigate those threats; and
- provide input to development of educational material to both enhance the visitor experience and encourage those visitors to 'tread lightly'.

It should be noted that Goal 4 of the NGS is being directed at defining the criteria that may define a geosite as being suitable for geotourism along with practicalities such as database hosting, fields, and user interface.

Indigenous Tourism

Living Cultural Values and Heritage

Goal 5 (addressing cultural landscapes) of the NGS specifically addresses this theme.

This goal focuses on geotourism opportunities in regional areas which occur outside parks and reserves, but which may contain interesting features and narratives including geological, biological, and cultural elements. Goal 5 is designed to develop geotourism in areas with regional communities (especially past and present mining communities) not covered by significant conservation legislative protections, but which are still worthy of recognition and promotion. It unites a cross-section of representatives from mining groups, Aboriginal heritage and tourism groups, conservation, tourism, and academia to explore tourism potential in places containing geodiversity that:

1. Has been exposed or modified by human activities (especially mining and quarrying).

2. Has significant additional value to people, through cultural history, recreational use, or educational opportunity.

Aboriginal cultural elements and landscapes cut across widely accepted, post-settlement landforms and landmarks, and have values specific to various groups and individuals. Therefore, there is potential to incorporate and/or communicate (with permission or via collaboration) creation stories and narratives of landscapes and features through geotourism. In this context, there is an opportunity to see a greater emphasis put on the connection across geotourism, geoheritage and the cultural heritage of Aboriginal people and the potential for future collaborations. Implicit in this approach is the need to protect and preserve the cultural heritage of Aboriginal people.

Building Partnerships to achieve resilience, sustainability, and social license

The Goal 5 Working Group has produced a reference document. This proposes a set of unifying terminology describing the various elements and activities that could be included in geotourism experiences, the agencies and stakeholders required to collaborate to achieve the initiatives in this strategy, and examples of Australian and International geotourism activities that approach what is desired to be achieved through this goal.

The Working Group includes representatives of three communities of the peak mining professional industry group, The AusIMM. The three communities represented are the Heritage Committee as well as the Social and Environment and Geoscience Societies. The AusIMM also operates the Darwin and Northern Territory branch for its locally based members. Other potential partners with a mining industry focus include the Australasian Mining History Association (AMHA) <https://www.mininghistory.asn.au/>

Sustainable development is a core element of geotourism (which incorporates ecotourism) and through any future establishment of UNESCO Global Geoparks in Australia. It is understood that these approved geographical areas are sites and landscapes of international geological significance which are managed with a holistic concept of protection, education, and sustainable development. Their bottom-up approach of combining conservation with sustainable development while involving local communities is becoming increasingly recognised as a core characteristic of global tourism.

Ecotourism Australia (which is represented on one of the NGS Working Groups) manages an Eco Destination Program <https://www.ecotourism.org.au/our-certification-programs/eco-destination-certification/> a designation that might be of interest to NT Parks.

Finally, and essential to the successful implementation of geotourism is the need for partnerships to be established amongst the domain specialists of both natural and cultural heritage. In practical terms, such partnerships will need to see the establishment of multi-disciplinary working groups comprising both rangers of the NT Parks engaging with geoscience and mining heritage specialists sourced from the professional societies within AGC, as well as seeking input from other natural heritage-based associations (e.g., Ecotourism Australia, Wildlife Tourism Australia) and community-based 'naturalist' groupings (e.g., Birdlife Australia).

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