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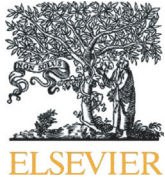


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A proposed governance model for the adoption of geoparks in Australia

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ABSTRACT

Purpose: Good governance is crucial in establishing and managing geoparks and is a requirement by UNESCO if global status is to be achieved. Australia has three levels of government, government agencies and not for profit organisations that can assist in the reintroduction of geoparks to Australia. This paper examines a range of governance models used by UNESCO Global Geoparks. **Design/methodology/approach:** This paper explores mechanisms that could be applied in the reintroduction of geoparks into Australia and considers how future geoparks might be managed. The suggested model is based on a review of existing UNESCO Global Geopark governance and their management structures. **Findings:** This paper reviews the opportunities for engaging with Australian organisational stakeholders to support geoparks and proposes a model that would be suitable for adoption in Australia. **Originality/value:** This paper examines a range of governance models applied to geopark development. It reviews the opportunities for engaging with Australian organisational stakeholders to support geoparks and proposes a model that would be suitable for adoption in Australia. Such an account has not previously been undertaken nor a satisfactory model proposed for the Australian situation. This is the first time that a comprehensive model for geopark governance has been proposed for Australia.

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1. Introduction

This paper addresses the governance of geoparks generally. It is widely accepted that there are different types (aspiring or established) and levels (national or global) of geopark. Furthermore, according to the Global Geopark Network (GGN), there are local geopark projects, national geoparks and UNESCO Global Geoparks. When we refer to geoparks we are addressing all the above. When we refer to UNESCO Global Geoparks we are using that term specifically regarding UNESCO recognised global geoparks. Fundamentally, geoparks are unified areas of geological heritage of international and local significance (Nikolova & Sinnyovsky, 2019; Orus & Urqui, 2020). According to the literature, geoparks need to have four key features: geological heritage of international value, a management structure, visibility and a networking programme (UNESCO, 2021a). Many geoparks are also designed to meet global sustainability goals such as ending poverty, being inclusive and equitable, fostering gender equality, provision of sustainable economic growth, improved sustainability of cities and settlements, sustainable consumption and production

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patterns and be seen to be taking action to combat climate change and strengthen global partnerships (Briggs, Dowling, & Newsome, 2021; UNESCO, 2021b).

Geopark management at a global level, is different from that of World Heritage Areas (WHA) and Man and the Biosphere Reserves. Management of these areas requires both legal and institutional requirements and a commitment of resources to manage them (UNESCO, 1972). For example, the Shark Bay World Heritage Area in Australia is managed by a committee appointed by the Western Australia State government to develop and implement a management plan for the area. The plan includes legislative requirements and represents a top-down management group to oversee the State's obligation to conserve, protect and rehabilitate the area's values (Shark Bay World Heritage Advisory Committee, 2021).

Governance is the process of decision making and the process by which decisions are implemented (Borrini-Feyerabend et al., 2013; Sheng, 2021). Governance models adopted for managing geoparks can be varied but are essential for coordinating the activities undertaken within them. The management structure of geoparks is not prescribed by UNESCO, however, there is only one legal requirement and that is to have a legally incorporated management group in place (UNESCO, 2021a). Several different management structures have been used in the many geoparks across the world with some involving government administration. Some include legislative change while others are a combination of local government authorities with business and community representation. In essence, there is no prescribed geopark management model (Drifting Apart Project Partnership, 2018). In the case of Langkawi UNESCO Global Geopark, Chan (2017) conducted research into governance structures for geoparks and observed that having a governance structure in place can provide a sound basis for stakeholders and custodians to collaborate and improve connectivity, and to improve socio-economic outcomes.

Australia previously had one Geopark, Kanawinka from 2008 to 2012 which included seven local government authorities as its management organisation (Kanawinka Incorporated, 2012; Lewis, 2017). While Kanawinka Geopark has since been delisted due to lack of support from the Australian government, its management structure provided a glimpse of the potential mechanism for management of future Australian geoparks. Briggs (2020) explored misconceptions associated with Kanawinka and the Australia government's perspectives about geoparks. A subsequent publication by Briggs, Dowling, & Newsome, 2021 has further reviewed these misconceptions and demonstrated they are mostly unfounded.

The Australian government through its Federal agencies Tourism Australia and Parks Australia, adopted a similar community management approach when it launched its 'National Landscapes Program' in 2005 (Tolkach et al., 2016). However, the government adopted a top-down approach. While the program lasted 10 years, it collapsed when government funding was withdrawn, further demonstrating the value of having locally engaged, bottom-up management in place. Accordingly, this paper proposes a model for governance and management of geoparks employing bottom-up management as a means of addressing the impasse to geoparks in Australia. The model is based on a review of existing UNESCO Global Geoparks and their management structures (Briggs, 2020) and how they liaise with government agencies, other organisations, and businesses. Moreover, this paper explores mechanisms that could be employed in the re-introduction of geoparks in Australia and considers how those future geoparks might be managed.

2. Geopark governance models: An international perspective

2.1. Evolving role of geoparks

Geoparks are single, unified areas of geological significance managed for conservation, education, and sustainable development (UNESCO, 2021a). They were initially established to provide conservation of geological sites where tourism was negatively affecting important geoheritage sites and to encourage sustainable development (Zouros., 2004). However, the focus has moved towards sustainable development as a means of improving the welfare of local communities, reducing poverty, and using education as a means for better conservation and protection of the geological heritage of places. Geotourism has become the focus for sustainable tourism development in geoparks as it includes the necessary accommodation, catering, transport and visitor services. To assist in achieving such outcomes geoparks are required to submit a management plan at the time of applying for UNESCO Global Geopark status (Nikolova & Sinnyovsky, 2019; UNESCO, 2021c). Many geoparks have been recognised for business growth and job creation where they have been established (Ng., 2017; Zouros, 2010). Such establishment of geoparks strongly indicates that both Government supported, and bottom-up community-led approaches, under the geopark banner have fostered interest and have been successful tourism and community development programmes.

Internationally, there are several different approaches to geopark development, all with government support. In some cases, legislated management structures have been established such as Alpi Apuane UNESCO Global Geopark in Italy (Apuana Geopark, 2011). In Greece, management of the Lesvos Petrified Forest Geopark is provided under the Natural History Museum, a legally incorporated not-for-profit organisation. The museum is State-owned and is supervised by the Minister for Culture (Zouros & Valiakos, 2010). On the other hand, Spanish geoparks have found that the formation of local and rural action groups by public and private organisations and stakeholders representing socio-economic activities to have been instrumental as management bodies (Orus & Urqui, 2020). Spain has a largely decentralised administrative government structure and this suits the bottom-up management required for many geoparks (Orus & Urqui, 2020). In other countries, local authorities have worked together to establish steering committees and the necessary management structures to include communities, business, and government agencies to operate geoparks such as TERRA.vita Geopark (Germany) and Madonie Geopark (Italy) (Briggs, 2020). Regardless of the structure, good management is essential in order to achieve a cohesive approach to geopark use and in

minimising detrimental outcomes (Canesin, Brihla, & Diaz-Martinez, 2020). In such diverse areas of interest such as geoparks, management structures are required to address, amongst other matters, complex network behaviour and emerging conflicts (Toma & Kudor, 2017). Furthermore, good governance and management is required to ensure that the scientific (geoheritage) and commercial (geotourism) stakeholders remain engaged to achieve both education and regional development without detracting from one another (Van Geert, 2019). Duarte, Braga, Marques, & Sa, 2020 indicate that good governance is a pillar for the success of local and regional development strategies.

Conservation of geology and geological sites of significance in Australia is mostly well-managed and protected under existing legislation through national parks and other reserves (Joyce, 2010). Knowing which geological areas are sensitive to exploitation, and having sound management of key features, facilitates the way for sustainable tourism development through geotourism in rural areas to become a priority for business growth and job creation (Briggs, Dowling, & Newsome, 2021). This could be achieved by a geopark management body working with government agencies responsible for geoheritage site management.

2.2. The European perspective

Geoparks in Europe have mostly adopted the UNESCO bottom-up model with high levels of community engagement (Farsani, Coelho, & Costa, 2010). The European Geopark Network (EGN) was established as a non-profit organisation with two committees for management of the network. The Coordination Committee is responsible for management and operations and includes two representatives from each European Geopark. The other committee is an Advisory Committee for strategic planning and development (Ramsay, 2017). Geopark management bodies are responsible for developing a Management and Action Plan that takes into account business, community, and conservation requirements (European Geoparks Network, 2014). Community engagement is highly regarded by UNESCO and there are many Global Geoparks that have established appropriate means of ensuring their respective communities are active and participate in geopark management.

Geopark management is achieved through partnerships and involves networking, liaison, and coordination with a range of stakeholders including businesses, not-for-profit organisations, academic and tertiary institutions, and local artisans (Farsani, Coelho, & Costa, 2010; Farsani, Coelho, & Costa, 2014; Global Geopark Network, 2010). The Basque Coast Geopark provides a good model for geopark management facilitating collaboration across all stakeholders under the umbrella of their geopark structure (Poch & Llordés, 2011) with a board, an executive team, and organised working groups. This model reflects the requirements of UNESCO by including relevant local and regional stakeholders and authorities (UNESCO, 2021a, 2021c). The model provides a sound basis for the planning and development of a geopark.

2.3. China and geoparks

As an early adopter of geological appreciation, China already had in place a government system for establishing national and regional geoparks for improving rural economies and reducing poverty (Ng., 2017). The Chinese system of top-down management using administrative bureaus such as for Jiuzhaigou UNESCO Global Geopark (Gu et al., 2013) appears to be accepted by UNESCO as a management approach for Global Geoparks. However, there is an expectation by UNESCO that the geoparks should stand on their merit in due course. China has commenced a more inclusive approach to community engagement. Ng. (2014) observed that, through the Hong Kong UNESCO Global Geopark, the government developed a relationship with local communities and non-profit organisations to organise school visits, talks and seminars, and supported geo-scientific research aimed at promoting public awareness in geo-conservation. The move towards a government led management system was also advocated by Fanwei (2014) in research into community perceptions at Mt. Huaying Grand Canyon Geological Park as a means to encourage community participation and private enterprise involvement.

As an early adopter of geoparks, China has an extensive internal network including local, regional, and national geoparks. In 1985, Chinese geologists proposed the establishment of geoparks to protect important geoheritage and permit scientific study (Xun & Ting, 2003; Zhao & Zhao, 2004). In 2004, China had 44 national geoparks and there was a growing network of local geoparks developing (Xun & Ting, 2003). One example of China's early national geoparks was Yuntaishan in Henan Province which was approved by the Chinese government in 2001 and covered an area of 190 km². It received 600,000 visitors in 2001 which increased to 940,000 the following year. With this growth came local employment and tourism infrastructure. The growth in tourism is not restricted to this one example (Zhao & Zhao, 2004). Throughout the development of its geoparks, China worked with the International Union of Geological Sciences, and in 2004 China joined the Global Geopark Network with eight Global Geoparks being accepted into the network. In a demonstration of its support, China also assisted the establishment of the Global Geopark Network coordination office in Beijing following the inaugural International Conference on Geoparks in 2004 (Global Geopark Network, 2018; McKeever & Zouros, 2005). By 2020, China had 284 National Geoparks and 39 UNESCO Global Geoparks (UNESCO, 2021d).

This government-oriented approach to geoparks in China has evolved through its administrative system where areas of geological heritage might already have previous classifications through different government agencies such as the China National Tourism Administration (National 5-A rated tourism attractions), Ministry of Housing and Urban - Rural Development of the People's Republic of China (National Scenic Areas and UNESCO World Heritage Areas), and the Ministry of Land and Resources of the People's Republic of China (National Geopark and UNESCO Global Geoparks). According to Ren, Simonson, & Pan, 2013, in these circumstances, geopark administrative committees are formed to coordinate across overlapping designations, but not always

successfully. However, these geoparks subsequently became successful tourism ventures but a lack of communication and education programs within geoparks became a common flaw when compared with UNESCO Global Geopark standards (Briggs, 2020).

Given China's major role in geoparks in general, this government top-down approach has been accepted by UNESCO and the Global Geopark Network. This outcome may have future implications for late adopters such as Australia and the USA, as they may wish to adopt a similar approach in their respective countries. Both countries have indicated their resistance to geoparks generally for several reasons including the use of the term 'park' (Briggs, Dowling, & Newsome, 2021; Environment Protection and Heritage Council, 2009). The possibility of having a greater influence over the management of geoparks might encourage government involvement in Australia and the USA.

2.4. Australia, geoparks and national landscapes

From 2008 to 2012 Australia had one geopark, Kanawinka Global Geopark. However, for reasons outlined by (Briggs, Dowling, & Newsome, 2021), the Australian Federal and State governments chose not to support geoparks. Some of the reasoning included a perception by government that legislative and policy changes would be required, Australian public confusion over the term 'park', as well as perceived mining and pastoralism conflicts with a designated geopark. Instead, the Federal government, through its agencies Tourism Australia and Parks Australia, elected to pursue a top-down approach through its 'National Landscapes Program' (Tolkach et al., 2016). Sixteen large-scale areas across Australia were nominated, each with a locally appointed management group with a view to promoting tourism to these selected destinations. After ten years of operations the funds were withdrawn, and the program lapsed. The management model employed for National Landscapes was similar in approach to geoparks except that it was a top-down approach and there was limited local ownership (Briggs, 2020).

The range of land ownerships whether under the National Landscapes Program or a geopark can also be challenging particularly as the consent of all owners is required within a geopark. This was recognised by Nikolova and Sinnyovsky (2019) in their study of European Union geoparks and they recommended that resolution of this matter become a role of the governance and management group. Nikolova and Sinnyovsky (2019) also recognised that legislative protection of geosites was not a role of geoparks with national legislation taking on this role.

3. Model for an approach to geopark policy development: The case of Western Australia

3.1. Case study region

The primary case study area lies in the predominantly rural central Wheatbelt of Western Australia (Fig. 1). The focus was on the Local Government Authorities of Tammin, Kellerberrin, Bruce Rock and Quairading. The geological importance of the area lies in the expression of striking granite/gneiss landforms and deep regolith associated with the Yilgarn Craton (Newsome, Ladd, & Dowling, 2022). Examples include massive, exposed granite domes and weathered features which are widespread across the region (Fig. 2). Besides unique ecological relationships and endemic plants and animals associated with the outcrops there is a rich cultural history dating back thousands of years. In satisfying the cultural connection for designation of a geopark the case study region demonstrates indigenous cultural history (Fig. 3) and stories of survival when early European explorers and settlers occupied the landscape. (Figs. 4 and 5). Prominent granite outcrop sites in the Wheatbelt area have already assumed considerable importance as conservation reserves and recreation sites (e. g. see Main, 1997; Moncrieff, 2000; Jocqué, Timms, & Brendonck, 2007) and as geotourism destinations (Newsome & Dowling, 2006).

3.2. Indicative framework

To address the current impasse in Australia (Briggs, Dowling, & Newsome, 2021), and to influence government policy towards the geopark concept, a strategic approach is required commencing with State Government agencies and working towards Federal government endorsement. A persuasive model to address the policy impasse can be an effective approach in influencing government policy (Cullerton, Donnet, Lee, & Gallegos, 2018). Briggs (2020) focused on the geopark concept in the predominantly agricultural rural zone of Western Australia, collectively referred to as the 'Wheatbelt' (Fig. 1). This section considers potential development and place management aspects regarding conceiving a geopark and subsequent adoption in Western Australia.

The three levels of Australian government, federal, state and local, require slightly different approaches. Some of these approaches include lobbying elected members of parliament and agencies that are engaged in areas likely to be included in geoparks such as land management, tourism, resource, and regional development. Direct approaches to local government authorities would be beneficial. A range of lobby groups who are supportive of geotrails and the geopark concept, such as Ecotourism Australia and Sustainable Economic Growth for Regional Australia (SEGRA), would make approaches on behalf of the geopark proponents (See Table 1).

The use of the term 'Geo-regions' has been introduced into the Australian geopark concept as a means of alleviating or lessening negative perceptions of possible impacts on government agencies and industry, particularly grazing and mining (Robinson, 2017). This term has not been endorsed by either the Asia Pacific Geopark Network or the Global Geopark Network (Briggs, 2020; Briggs, Dowling, & Newsome, 2021).

In 2020, the Australian Geoscience Council was approached to assist with introducing a national focus on geotourism including geotrails and geoparks. A National Geotourism Strategy is being prepared under a steering committee and was launched in 2021

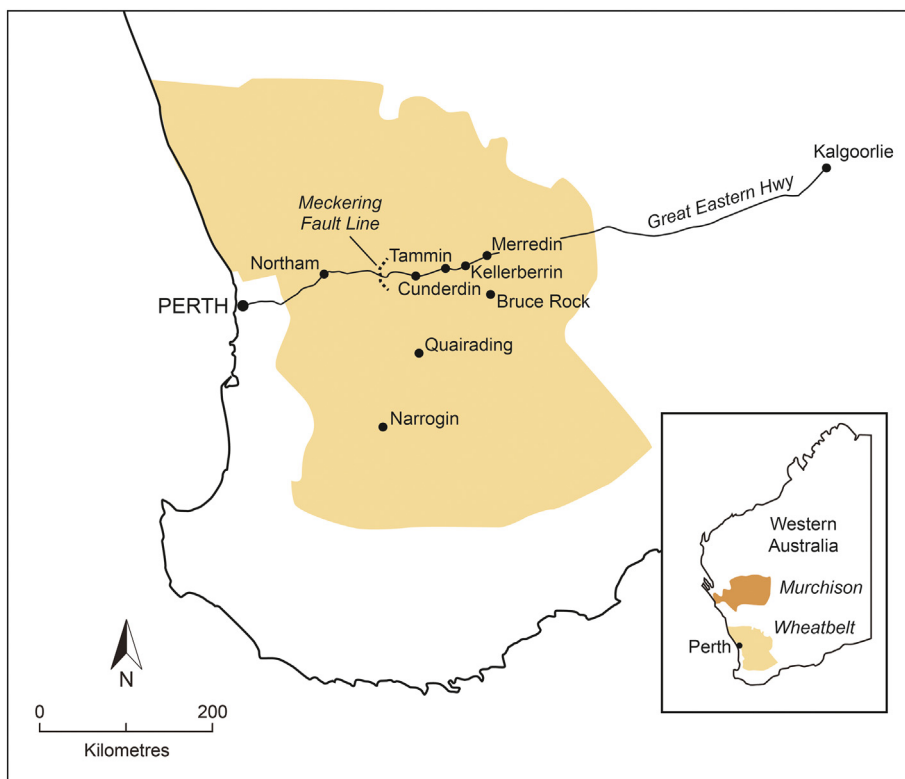


Fig. 1. The Wheatbelt and Murchison regions of Western Australia.

(Australian Geoscience Council, 2021). The strategy is being prepared as a submission by concerned participants and includes, as one of its goals, establishing a process for geoparks in Australia (Robinson, 2019, 2021a, 2021b).

3.3. Federal government approach

Lobbying is part of the modern-day democratic process and can lead to members of parliament having a broader insight into government decision making (Halpin & Warhurst, 2015; Organisation for Economic Co-operation and Development, 2012). In Australia, there are lobby kits for lobbying government Ministers (Federation of Community Legal Centres, 2018) and, according to Menadue (2015), there are over 226 registered lobby groups in Canberra (the capital of Australia and home to Federal Parliament) and more than 1000 active lobbyists engaging with government to drive their own interests. This implies that there might be a level of difficulty in directly lobbying government Ministers at a Federal level. Lobbying can be successful when a campaign approach is adopted. At least one minister at the federal level has previously expressed support for geoparks in Australia and support of the former Kanawinka Geopark. Maintaining communication with this minister would be important.

A second approach to influence the federal government is to build liaisons with government constituencies that are supportive of geoparks. Geoscience Australia is the Australian national government organisation responsible for geological science in Australia. It is an active member of the National Environmental Research Program and engages with environment and conservation agencies as well as State geological survey agencies. Successful engagement with Geoscience Australia might be achieved through direct linkage with the organisation or through the State-based Geological Survey agencies.

3.4. State government approach

Briggs (2020) focused on the Wheatbelt in the state of Western Australia (WA), to propose possible strategies with WA-based government agencies with land management responsibilities - each responsible to a minister of Parliament. Direct approaches can be made to ministers and to local members of Parliament. Several government agencies are regionally based, such as the tourism and regional development commissions, and these are key focus areas in order to establish the concept and obtain participation in the geopark model. The focus here is on regionally based offices and associated staff in the Wheatbelt of Western Australia.

Each state government department has representative regional agencies and several of these operate within the Wheatbelt Region of WA (Briggs, 2020). These include the Department of Primary Industries and Regional Development (Agriculture and Development Commissions); Department of Education; Tourism Western Australia; the Department of Biodiversity, Conservation and Attractions (Environmental Department); the Department of Mines, Industry Regulation and Safety (Geosciences);



Fig. 2. Extensive outcropping of granite in the northern wheatbelt region of Western Australia.

Note: Outcrops such as illustrated provide the setting for interpreting variations in the solid geology, weathered landforms, specific ecological communities and relationships and human usage over time.

Department of Transport; and the Health Department. The key agencies referred to in achieving a geopark in the Wheatbelt region are the Wheatbelt Development Commission and Tourism Western Australia's 'Golden Outback Region' rural tourism initiative. The group also comprises the Department of Agriculture regional office (Northam), and the Department of Biodiversity and Attractions regional office (Narrogin) and district office (Merredin) (Fig. 1). Each regional office could be approached to inform them of the opportunities associated with geoparks and invite their participation in the community organisation which can be established as the vehicle for establishing and managing a geopark. State government agency policy can be influenced this way - through participation.

3.5. Local government approach

Local Government Areas (LGAs) within the Wheatbelt of WA have been supportive of the geopark concept and perceive it to be a means of achieving business growth and job creation in their areas (Briggs, 2020). The study area LGAs of Tammin, Kellerberrin, Bruce Rock, and Quairading continue to support the concept. Each LGA has previously provided resources in the form of time from their Community and Economic Development Officers (C/EDOs) and venues for community meetings. Ongoing communication with the CEOs and C/EDOs has maintained their support. It is recommended that this communication be extended to include the LGAs of Cunderdin (to the west) and Merredin (to the east) of the study area to provide recognisable western (Meckering earthquake area) and eastern entry (Merredin Tourism Bureau) points along the Great Eastern Highway into the Wheatbelt Geopark. The inclusion of the two LGAs will also assist in meeting the requirements for nominating a defined boundary for a possible UNESCO Global Geopark in the future.



Fig. 3. Tor occurring as a result of rectangular block weathering of an extensive granite outcrop in the north-eastern wheatbelt.

Note: The prominent white dots were created by aboriginal people and represent the spines of an echidna and mark the site's importance within a songline journey. Songlines represent part of a song that a traveller in the landscape memorised and sung to help in navigating a journey when travelling along a specific walking route to get to a destination of cultural importance.



Fig. 4. The wheatbelt region has a cultural history that reflects aboriginal ways of life, early European settlement and the development of modern agriculture. *Note:* The contemporary context now highlights some of the environmental problems that traditional agricultural practices brought about and how rural communities are now turning to tourism as a means of diversifying rural livelihoods.



A



B

Fig. 5. A. Exfoliated sheets of granite derived from natural weathering processes were collected and arranged by early settlers in the 1920's to make sheep pens. B. Information panel highlighting important cultural features that can be seen during a visit along the Wheatbelt Drive Trail.

It is proposed that a steering committee be established, overseen by the LGA CEOs and in accord with the LGAs various levels of stakeholder interest. Regular meetings with the C/EDOs can be initiated to grow the concept and turn perceptions into an action plan to establish a geopark. Presentations can then be made to LGA councils to inform them of the directions being proposed and to gain their overarching support. This support can be written into a memorandum of understanding to further progress the establishment of a geopark. Moreover, a memorandum of understanding was achieved in 2008 between these LGAs to establish a 'Granite Way Drive Trail' (Oliver, 2009). Having LGA support will enable joint meetings of LGA staff and councillors to facilitate management planning. LGAs would also be requested to contribute resources towards the implementation of a management plan. These resources might be in-kind (such as office space, stationery, and machinery); financial or other material contributions; or a redirection of current resources into marketing, promotion, signage, and maintenance of facilities. An example of this approach has been initiated in the Murchison Region (located in central Western Australia) where seven LGAs have been contributing time and finances to support the establishment of a geopark in their region.

Table 1

Indicative framework for influencing federal and local government authorities to adopt a policy in favour of the geopark concept.

Level of government	Agency	Lobby groups
Federal	Ministers/Elected members Chief Scientist Geoscience Australia Tourism Australia Parks Australia Environment Australia	Ecotourism Australia GSA Australian Geoparks Network or AGN
State/Territory	Ministers/Elected members Chief Scientist Geological Survey Land management agencies (DBCA, Water, Agriculture) Tourism WA Education Regional development commissions	Tourism Council WA WAITOC FACET Geoparks WA GSA state branches
Local government authorities	Individual councils Department of local government Western Australian Local Government Association	Geoparks WA

Note: WAITOC is short for Western Australian Indigenous Tourism Operators Council; FACET is short for Forum Advocating Cultural and Ecotourism; GSA is short for Geological Society of Australia; DBCA is short of Department of Biodiversity, Conservation and Attractions.

An anticipated part of the success of LGAs is the facilitation of community groups to achieve projects. As determined through field research (Briggs, 2020), there is already strong community support for this geopark project and engaging community support is expanded upon below.

3.6. Working with non-government organisations

There are several key non-government organisations that have a connection to geoparks and would be valuable supporters of geoparks. These include the Geological Society of Australia (GSA), the Australian Geoscience Council (AGC) and Ecotourism Australia (EA). Notwithstanding that GSA has a focus on geotrails, it is used as a case study in this paper. In Western Australia, two non-government organisations were incorporated to facilitate establishing geoparks in Australia. Geoparks Western Australia (operating as Geoparks WA) was incorporated in 2018 and the Australian Geoparks Network (AGN) was incorporated in 2020.

3.6.1. Geological Society of Australia

The GSA is a non-government organisation and has a largely professional body of geology-based members. The GSA has a national structure with a council of representative members and has branches in each State. At a national level, the council of the GSA has established several Standing Committees, one of which is the Standing Committee for Geotourism. The first author of this paper is a member of this Standing Committee. The Standing Committee is already engaged in determining a political strategy to move forward with geotrails across Australia. The former chair of the Standing Committee considered several approaches to date; however, to avoid conflict about 'ownership' of ideas and initiatives in current negotiations, the term 'Geopark' has been replaced with 'Georegion'.

The state-based GSA branches have also been establishing geotourism subcommittees which report to the local branches and the Standing Committee as a means of coordinating geotourism within each state and across Australia. The GSA Western Australian state branch has previously considered establishing a geotourism subcommittee as a means of engaging its members in this niche field of tourism. At this point in time the subcommittee has not been established. It is pertinent to point out that members of the future subcommittee would be welcome contributors to the geopark concept.

3.6.2. Australian Geoscience Council

The Australian Geoscience Council (AGC) is the peak council of geoscientists in Australia representing eight geological societies with a membership of over 8000 individuals across the industry, government and academic professionals in the geo-industry (Australian Geoscience Council Inc., 2021). In 2020, the AGC was approached to support the development of a National Geotourism Strategy (NGS). The concept was to emulate the success of the earlier National Ecotourism Strategy which helped launch nature-based tourism in Australia with the support of Federal and State governments. The President of the AGC, Professor David Cohen, announced the launch of the NGS in April 2021 (Australian Geoscience Council, 2021). The launch referred to geo-regions however within the document reference is made to geoparks. The AGC would also make a likely partner in establishing geoparks in Australia.

3.6.3. Ecotourism Australia

Ecotourism Australia (EA) has extensive networks in tourism across Australia and holds highly regarded and well-attended annual conferences. Since 2016, the annual EA Global Eco Asia-Pacific conferences have included geotourism segments and workshops. EA conferences are attended by both government and private representatives and provide an excellent means of

communicating the role of geoparks to delegates and their associated organisations. EA supports geotourism (Hillman, 2021). EA would be a useful partner and in furthering the acceptance of the geopark concept in Australia. EA would be encouraged to continue with geotourism segments and promote geoparks through their multimedia platforms.

3.6.4. Australian geoparks network and geoparks Western Australia

The facilitation of establishing a geopark will require support for rural areas where geoparks are likely to be located. This requires a concerted effort from the community in the establishment of *regional* geoparks and by geopark advocates working through policy channels such as EA and the GSA. Geopark advocates should also undertake direct approaches to Australian Federal and State ministers and agencies.

The Australian Geoparks Network and in Western Australia, Geoparks WA, can assist in the establishment of geoparks in regional areas. Coordination of lobby approaches needs to be developed. Geoparks WA, an incorporated for purpose (not-for-profit) community organisation, has been established since 2018. This organisation could be replicated in other states. Initiated in 2008, the Australian Geoparks Network is now an incorporated Australia-wide coordinating body. The charter for both organisations is to facilitate the establishment of geoparks in Australia and to assist geoparks on a state-by-state basis.

3.7. Working with community groups

As part of the bottom-up approach advocated by UNESCO for geoparks, community groups are an essential requirement in establishing a geopark. However, in research reviewing literature about community engagement with communities, Stoffelen (2019) identified this was lacking. Briggs (2020) also acknowledged this gap in geopark processes. In Australia, to be effective, community groups need to be involved and will need the support of both LGAs and State Governments to establish geoparks in their areas. In the case of the Wheatbelt Geopark project, community meetings to collect research data indicated that the communities are prepared to work together to create a geopark; however, the individual community members prefer to retain management control over decisions about the direction and management of the geopark (Briggs, 2020). This can be difficult if there is a reliance on government funding for the support of the geopark. However, with the correct management structure in place, this could be achieved. UNESCO guidelines require an incorporated management structure to be in place for the coordination and development of a geopark. Having a not-for-profit incorporated organisation can be beneficial as it is one step removed from government and is therefore able to receive grant funding for projects with the support of government agencies who might not otherwise be eligible to acquire the grants.

To establish a management group for a geopark in the Wheatbelt of Western Australia, a coordinated approach across four, and potentially six, community groups in as many LGAs may be required. Examples of these include local business and aboriginal (first nations) groups. This will be a significant task and will require funding for planning and implementation. To enact these proposals, a coordinator would be required, the costs of which might be obtained from the regional organisations such as the Wheatbelt Development Commission in Western Australia.

4. Model for management of a proposed geopark in Australia

UNESCO Global Geopark models range from top-down, as in China's approach (Ng., 2017), to formation by legislation such as in Slovakia (Rybar, Molokac, & Hlavcova, 2014) and cooperative approaches by local government authorities such as in Katla Geopark in Iceland (Rybar et al., 2014) and TERRA.vita in Germany (Hartling & Meier, 2010).

In Australia, the proposed model is akin to that of the former Kanawinka Geopark which engaged with LGAs across the volcanic regions in South Australia and Victoria (Briggs, 2020). The model engaged with local government authorities, business, and community organisations with representation on the management committee by state agencies as and when required. Kanawinka comprised a large area of about 26,910 km² (Global Geoparks Network, 2012) and the large distances involved contributed to difficulties in achieving effective communication (Lewis, 2017). Recently, Etheridge LGA in Queensland attempted to initiate a geopark over its singular, though extensive, LGA. However, due to negative perceptions about the apparent conservation influences of UNESCO, this proposal was abandoned in favour of establishing a series of geotrails. Based on previous experiences with Kanawinka and Etheridge in Eastern Australia, consideration was given by the eastern states of Australia (Queensland, New South Wales and Victoria) to reducing the size of the geopark concept in terms of scale (area covered) and partners (numbers of LGAs and other land managers involved) and instead focusing on geo-trails until such time that all stakeholders become familiar with the geopark concept (Lewis, 2017; Robinson, 2017).

Given the responses by stakeholders documented by Briggs, (2020), in Western Australia, the Kanawinka model of engaging LGAs appears to be the most acceptable as it retains decision-making and management control in the hands of the local community. This is also the most common model used by the Global Geoparks network and meets UNESCO requirements of a community-driven approach. The LGA model also addresses the environmental, economic, and social dimensions of sustainable development (Gabriel et al., 2018).

In Western Australia, there are several LGAs keen to adopt a geopark within or over their collective boundaries (Briggs, 2020). The concept would initially align the boundary of a geopark with the boundaries of the participating LGAs. After a period in which governments recognise the geopark concept, a more specific geopark boundary might be defined if considered necessary or required. Briggs (2020) identified that four LGAs are willing to participate in the Wheatbelt research study geopark concept. Consideration is also being given to including two additional LGAs to establish identifiable boundaries for this geopark project. This

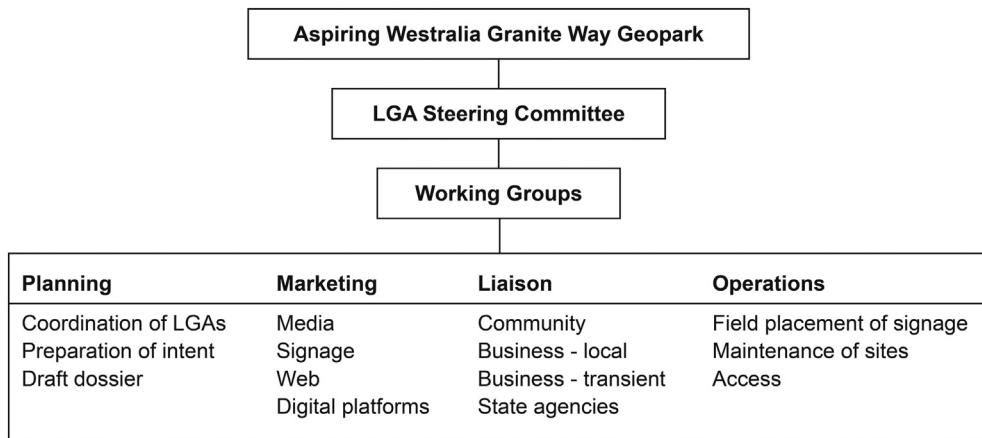


Fig. 6. Proposed management structure for a geopark project.

would result in an approximate geopark size of over 11,000 km². However, unlike the Kanawinka Geopark, the distance between the participating LGA centres is not large by Australian standards. The proposed governance and management models would comprise two stages. The first stage would be the establishment of a steering committee to initiate and develop the Geopark concept. This committee would comprise the LGA CEOs and their representative C/EDOs. A geopark working committee comprised of C/EDOs and recognised local stakeholders would be convened to initiate the business planning framework for the geopark (Fig. 6).

The second stage could establish a legally incorporated geopark management board which would then take on the governance and management of the Westralia Granite Way Geopark project in the wheatbelt region in accordance with UNESCO requirements. The second stage would retain the steering committee led by the LGAs and include the geopark management committee for the geopark. This Board thus might include representation of LGA, local business and government agencies, and representatives of the local community.

We recommend that the board would, in due course, engage an executive officer to have oversight over administration, conservation, education, research, marketing, and sustainable development programs. An executive officer would primarily be responsible for pursuing the registration of the geopark as an aspiring UNESCO Global Geopark in accordance with the procedures set out by UNESCO (UNESCO, 2016). Liaison with state agencies would be achieved through representation on a community consultation panel, along with community members, which would inform the board of the geopark about policy directions, agency and community needs, and implementation requirements (Fig. 7).

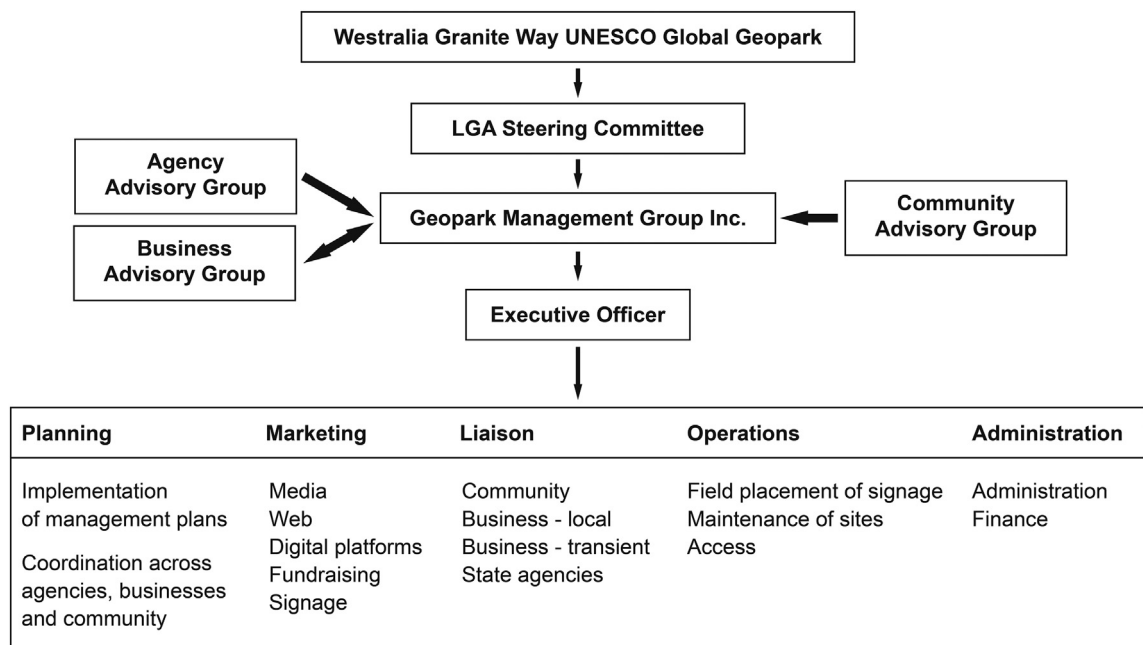


Fig. 7. Proposed management structure for the Westralia Granite Way UNESCO Global Geopark.

5. Conclusion

Unlike the requirements for World Heritage Areas and Man and the Biosphere reserves where host countries are required to take an active role in management and legislation, UNESCO has only one requirement for geoparks, that of having legal status as an incorporated body for its governance and management in the host country. Otherwise, geoparks must adhere to the host country's legislation. Geoparks are not national parks and are, except for China, mostly managed by the local community through a 'bottom-up' process. In addition, geoparks are not just about geotourism, they are much broader in their application with the potential to alleviate poverty, create sustainable businesses, improve community wellbeing, provide education, and encourage participation and enhancement of culture. As such, an appropriate governance and management model is essential.

By focussing on the case of the Wheatbelt in Western Australia, we have presented a way forward for the development of geoparks in Australia. LGAs in Australia have a distinctive role to play in establishing and managing geoparks through their close association and representation of local communities. Such LGAs provide the foundation for management of geoparks. In WA, several LGAs have commenced the process for establishing geoparks, either individually or collectively with neighbouring LGAs. There is increasing interest in the benefits that geoparks can bring to regional areas.

To create awareness about geoparks with a view towards having state government and government agencies acknowledge geoparks, Geoparks WA has been working with Ministers and regional development agencies in Western Australia. Already, funding has been provided to assist with the Wheatbelt geopark project and the Murchison Geo-region with considerable media attention resulting from this exposure. Our vision is to see Western Australia and Australia in general join the geopark 'family' and acknowledgement of the local community benefits that geoparks have to offer as is evidenced throughout the world.

Author credits

Alan Briggs: Initial conceptualisation, formal analysis, field work and original draft (50%).

David Newsome: Initial conceptualisation, supervision, validation, secondary drafting, review and editing (30%).

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Declaration of Competing Interest

There is no conflict of interest.

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