

Marketing Geotourism to Potential Australian Geotourists

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Abstract

In Australia, geotourism is defined as tourism which focuses on an area's geology and landscape as the basis for providing visitors' engagement, learning and enjoyment. Geotourism has great potential as a new nature-based tourism product. Wherever tourism contributes a direct environmental benefit to a visited location, its clients gain empathy for the holistic heritage of the area, and this reward creates enhanced customer loyalty to the operator. The Australian Government's 1994 National Ecotourism Strategy considered that ecotourists may include a mix of independent travelers, people who travel in organised groups of a scientific, educational or recreational nature, and individuals or families who are interested in an ecotourism experience as part of a varied holiday. Having regard to demographic and lifestyle considerations, it has been subsequently considered that geotourism, if positioned as an alternative, knowledge-adding product, could attract a different demographic; i.e., affluent over 45 y.o. travellers, particularly from amongst geoscience professionals from within these segmentations, as well as their partners and friends. Alumni and professional societies such as the Geological Society of Australia (GSA) were identified as the most likely target groups. To address this proposition, in 2008, Leisure Solutions® and the School of Marketing, Tourism and Leisure at Edith Cowan University undertook a cooperative market research survey of members of the GSA. This paper addresses the rationale for and scope of this research work as well as reviews from then available research materials which could assist marketers in understanding who are the people most likely to be interested in geotourism. The findings and conclusions from this research are also discussed. The paper also reviews the substantial progress made in Australia since 2008 in gaining the support of the Australian geoscience profession and the nature-based tourism industry in embracing geotourism.

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Introduction

The findings of the research described in this paper were presented at the inaugural National Conference on Green Travel, Climate Change and Ecotourism (now branded as the annual Global Eco - the Asia-Pacific Tourism Conference) of Ecotourism Australia Ltd (EA) held in Adelaide, in November 2008. In a research note in the Journal of Tourism, Mao et al. (2009) of Edith Cowan University published details of the research methodology and offered a number of recommendations in relation to the future development of geological destinations in Australia.

Nature of Geotourism

Ecotourism

The definition of ecotourism adopted by EA, which is Australia's peak, nature-based, industry association, is 'Ecotourism is ecologically sustainable tourism with a primary focus on experiencing natural areas that fosters environmental and cultural understanding, appreciation and conservation.'

Ecotourism began with small groups travelling to relatively undisturbed areas, appreciating natural scenery and traditional cultures. World tourism has become an immense global industry, with an impact related to its size. Now ecotourism is increasingly seen as part of world tourism. Governments and the tourism industry are using 'ecotourism' as a brand for 'good' or 'green' tourism, though at times all seem oblivious of its original objectives.

In the past, sustainable small-scale ecotourism was led by academics keen to avoid inflicting damage, and with the conscience to leave untouched locations unable to survive any level of attention. The downside of the mainstreaming of ecotourism is that the activity itself may progressively

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destroy the very values that appeal to the ecotourist. This is a continuing problem, particularly now as the greatest impact of mass ecotourism is falling on the most fragile environments, particularly in protected areas such as nature reserves, national parks, and World Heritage Areas. To address this situation, EA manages a certification scheme to provide industry, protected area managers, local communities and travelers with an assurance that a certified product is backed by a commitment to best practice ecological sustainability, natural area management and the provision of quality ecotourism experiences.

Geotourism

Geotourism continues to develop as a distinct area of special interest tourism (Dowling and Newsome, 2008). Geotourism has also been defined as ecotourism or tourism related to geological sites and features, including geomorphological sites and landscapes (Joyce, 2006). In January 2015, geotourism was formally defined by the Governing Council of GSA as *'tourism which focuses on an area's geology and landscape as the basis for providing visitor engagement, learning and enjoyment.'* Moreover geotourism adds considerable content value to traditional nature based tourism as well as cultural tourism, inclusive of indigenous tourism, thus completing the holistic embrace of 'A' (abiotic) plus 'B' (biotic) plus 'C' (culture) (Dowling, 2013).

Geotours visit natural scenic landforms and explain the surface and deep processes that shaped them. Tourists, seeking to have the natural environment interpreted for them, can expect explanations of geology as well as flora and fauna, creating a holistic view of ecosystems. This enhances their support for the conservation of ecosystems for future generations. The complexity of geology has so far restricted geotour leadership in Australia to a small group of geologists, and often to those with a sense of adventure.

Geotourism has the same objectives as ecotourism, but particularly seeks to explain the beauty and origins of the Earth - all landscapes, landforms, plants and animals - 'Geologica' (Coenraads and Koivula, 2007). Geotourism complements scenic beauty with revelations of how they were formed. Geotourists see this additional information as doubling the value of a tour. A significant feature of geotourism is that it does not require untouched landscapes as its playground. A great tour can equally be delivered on a quarry floor, in a historic mining area e.g. the Jianguashi Gold Ecological Park, Taiwan, and in Chillagoe, North Queensland (Robinson, 1979), on roads in a national park, or in total wilderness.

However, it is important to note that geotourism is defined somewhat differently in the USA. According to a recent major travel industry survey report polling some 55 million Americans, geotourism is understood to encompass all aspects of travel, not just the environment (Stokes et al., 2003). Its definition - 'tourism that sustains or enhances the geographical character of the place being visited, including its environment, culture, aesthetics, heritage, and the well-being of its residents - describes completely all aspects of sustainability in travel'. The study also found that three segments of these geotourists are inclined 'to exhibit geotourism attitudes and behaviours - these geotourists seek culture and unique experiences when they travel'. The three identified segments are:

- Geo-Savvy - <35 y.o., well educated and environmentally aware.
- Urban Sophisticates - affluent, focusing on cultural and social aspects of tourism.
- Good Citizens - older, less sophisticated, but socially conscious.

Geotourism, by diluting the mainly biological/cultural emphasis of mainstream ecotourism, will allow ecotourism to expand away from (in part) environmentally sensitive areas. So geotourism can be seen as more eco-friendly than ecotourism per se. Geotourism therefore offers the

opportunity to provide relief from the overuse of ecologically sensitive areas. It is therefore ecologically sustainable, environmentally educative, locally beneficial and as fostering tourist satisfaction (Dowling and Newsome, 2008).

Sustainable Marketing of Geotourism

Pfarr and Megerle (2006) have cited work by Buckley (2003) and Lang (2003) that defines geotourism as the intersection of nature-based tourism focusing on geo-objects and sustainable development. They see geotourism in the context not only of a new market segment but also as a 'normative direction contributing to geo-conservation and sustainable development'. The authors also cite Megerle and Megerle (2002) who suggest that geotourism should be viewed as part of a holistic management approach to the broad field of geological and landscape history including its interconnectedness with flora and fauna, the cultivated landscape, and present land use. They see sustainability and environmental education as integral parts.

In effect, geotourism is ecologically sustainable tourism that explains the scenery in terms of how geological processes formed the patterns that can be observed in landforms in a plethora of landscapes such as mountains, deserts and islands, and in the rock outcrops that can be observed in coastal cliffs, creeks, road cuttings, lookouts, quarries, mine sites, and through walks in national parks. Most of these are erosional sites; none need to be ecologically challenged.

Geotourism does not need wilderness, but it can go there. Geotourism can be delivered through a wide range of transport modes e.g. cars, coaches, ships, boats, and on foot. The potential impact of increasing world tourism is enormous, and this should preclude its involvement with wilderness areas. Global tourism must be ecologically sustainable, and shifting the emphasis from ecotourism to geotourism represents a positive step towards more sustainable global tourism.

The marketing of the Australian tourism industry for both inbound and domestic customers has been become segmented in both demographics and activities. It could be argued that industry marketers have lost sight of the proposition that the offered product value must be compelling in content, variety and quality so as to attract customers from the widest spectrum of demographic groupings.

The global market is looking for unique product experiences and a broader mix of experiences e.g. in the adventure tourism business, a New Zealand operator offers jet boats, 'bungy jumping', 'heli-skiing' all in a single product! The group tour market is well suited to this new approach. Customers for tours have become more sophisticated, well traveled and discerning and generally come from higher socio-economic demographics. They are also intelligent, 'thinking' travelers.

The incorporation of the geotourism experience with traditional nature tourism and elements of cultural tourism creates a more holistic experience, and is a move towards the 'experiential tourism' model. In short, 'experiential tourists seek memorable experiences (Smith, 2006). In this sense, sustainability is achieved through providing a high quality experience encouraging return visitation, and attracting new customers by 'word of mouth'.

Geotourism has great potential as an expanded nature-based tourism product. However, it will still require the same disciplines that apply to niche, 'high value' tourism activities. Robinson and Roots (2008) have argued that marketing management decisions need to be considered as part of the overall marketing mix - the five Ps - product, place, price, promotion and people.

The Australian 1994 National Ecotourism Strategy considered that

ecotourists may include a mix of independent travelers, people who travel in organised groups of a scientific, educational or recreational nature, and individuals or families who are interested in an ecotourism experience as part of a varied holiday. (Allcock A. et al, 1994). Whilst based on limited sources, the Strategy then considered that the ecotourist appears to be well educated, professional/semi-professional, 20-50 years of age, independent and individualistic, looking for alternatives to be traditional tourist destinations and experiences, and with significant spending power.

With the passage of time and with the benefit of more detailed research, a different picture of the ecotourist has emerged, with a suggested focus initially on older rather than younger travelers. However, very little has been known about the needs and wants of Australian ecotourists with a particular interest in geology and/or geological landforms. Moreover, since 1994, despite numerous State Government inspired policies focused on ecotourism, there has been no national strategy developed for geotourism.

However, in November 2017, speaking at the opening of the Asia Pacific Global Eco conference in Adelaide, the South Australian Government Minister for Sustainability, Environment & Conservation, the Hon Ian Hunter MLC commented on the potential of geotourism development for South Australia, "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 addition, following a representation to the Hon Geoff Brock MP, South Australian Minister for Regional Development and Minister for Local Government at the SEGRA 2017 conference held at Port Augusta, South Australia, he subsequently agreed that the focus on nature, landscape, heritage and culture in the major industrial corridor through the Upper Spencer Gulf Region of his State represented key focal points for tourism development, and implies a geotourism approach.

Need for Market Research

Given the relatively small size of the Australian 'geoscience interest' market, it was recognised in 2008 that content packaging to meet 'geotourist' needs would be critical. To address this issue, Leisure Solutions® and the School of Marketing, Tourism & Leisure at Edith Cowan University (ECU) undertook a cooperative market research study involving some 2,300 members of the Geological Society of Australia (GSA).

1. The research project provided an opportunity for ECU students to gain a real-world experience of conducting market research. Students' engagement in the project would enhance their learning experience in tourism research and analysis unit.

2. On the other hand, ECU students were given the opportunity to provide fresh ideas and valuable input into this research project. It was intended that the results of the research would be used by Leisure Solutions® for geotourism product development.

Method

It was recognised that Leisure Solutions® was undertaking the market research on geotourism products so as to determine the extent of interest of members of the GSA in participating in commercial domestic (Australian) and overseas travel in geotourism related activities. It was expected that ECU students would help Leisure Solutions® to achieve this goal by engaging in the research process including survey questionnaire development, data collection and data analysis.

Industry engagement is one of the strategic priority areas of ECU. The cooperation between ECU and Leisure Solutions® through this market

research project served as an excellent example of a strategic partnership between ECU and the emerging geotourism industry. By working on real-world industry projects, the students were able to apply their knowledge from the classroom. The project was seen as an interesting and valuable learning experience for the students, which would be helpful in their future professional development. In return, an industry partner was able to utilise the intellectual resources available from the University to serve their research purpose.

Research Objectives – Geological Society of Australia

The study objectives can be summarised as follows.

- Who are the potential travelers (the 'geotourists') and what are their demographic characteristics?
- What are their potential interests in geotourism in Australia and around the world?
- What are the purposes for their visits?
- How likely will they be to commit to a geotour within two years time?

Results

The following findings of the research were determined and described by Mao et al. (2009). The subjects included 154 respondents collected from the survey representing 7% of the GSA membership. The respondents were 84% male and 16% female, the largest age group being 55-64 year olds. The level of education of the group varied from undergraduates to those with a second degree education. Half of the respondents were employed on a full-time basis, with 29% being either semi or fully retired. Approximately one third of the respondents work in consulting businesses (30%), a quarter are government employees (25%), a similar number work in industry (24%), with the remainder being academics (21%). Members of the sample group were well paid with the largest income group among the respondents having a weekly income in excess of AUD\$2,000 per week (45%). The majority of the respondents were at the life-stage of being 'empty nest - still working' or 'empty nest - retired' (57%).

Travel Purpose

The most important travel purposes amongst the respondents were to increase their knowledge of geological sites and landforms, satisfy their curiosity, have memorable experiences, obtain intellectual stimulation, and visit destinations offering a unique bundle of features and attractions (Table 1).

Table 1. Important travel purposes

	N	Minimum	Maximum	Mean	Std. Deviation
Increasing knowledge of geological sites and landforms	158	1.00	5.00	4.1582	.88528
To satisfy my curiosity	157	1.00	5.00	4.1401	.85828
To have a memorable experience	156	1.00	5.00	4.1026	.91707
To obtain intellectual stimulation	157	1.00	5.00	4.0955	.89000
Visiting destinations offering a unique bundle of features and attractions (i.e. ecology, geology, culture and history)	158	1.00	5.00	4.0316	.98019
Valid N (list wise)	156				

The three least important travel purposes amongst the respondents were being able to share travel experiences after returning home, visiting destinations offering a wide variety of cultural/art events and attractions, and meeting new people as part of a group tour.

Thus the respondent's priorities were principally to increase their knowledge of geological sites and landforms, a finding which is significant for the development of geotourism destinations in Australia (Table 2). As the respondents were mostly mature, well-educated, and comparatively well-established, it was considered that they are more likely looking for inspiration and to satisfy their curiosity through geotourism activities instead of just looking for 'socialising' opportunities.

A number of additional suggestions were provided by the respondents through the open-ended questions. They shared their views about accommodation, accessibility of attraction sites, information on sites, sites facilities, and experiences. All ideas were considered useful for the development of geotourism in Australia. It was considered that specific information provided on accommodation design and development should be taken into consideration because the different demographic groups all identified different types of accommodation requirements. For instance, younger people stated that they did not mind simpler accommodations such as tents or huts but those who are older, or have families, prefer better facilities and are more demanding of accommodation standards. The survey also identified a significant number of the respondents who prefer to travel independently rather than taking group tours to geotourism sites.

Accessibility of visited sites was an important issue/concern for the respondents over 55 years (59%). Facilities which can make the sites easier to access such as wheelchair access for disabled people may have to be provided with the addition of ready access to medical facilities. Having good tour guides and detailed information on the geological icons onsite together with sound road access (to minimize damages to vehicles), was also suggested by the respondents.

A key finding was that the respondents prefer to travel independently in Australia or overseas rather than participating in group tours. Results indicated that the respondents were unlikely to join a tour to visit a geotourism site in Australia (46%) or overseas (45%). Conversely the respondents said they were more likely to travel independently to geotourism sites either in Australia (77%, Table 2) or overseas (53%, Table 3). These results indicate that geotourism destinations have not yet been fully developed for organised tour groups and also that the members of the GSA surveyed are well-travelled and knowledgeable enough to travel independently to geotourism sites.

Table 2. Travel Independently to an Australian Geotourism Site

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Unlikely	6	3.5	3.8	3.8
	Unlikely	10	5.9	6.4	10.2
	Neutral	20	11.8	12.7	22.9
	Likely	70	41.2	44.6	67.5
	Very Likely	51	30.0	32.5	100.0
Total		157	92.4	100.0	
Missing	99.00	2	1.2		
	System	11	6.5		
Total		13	7.6		
Total		170	100.0		

Table 3. Travel independently to an Overseas Geotourism Site

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Unlikely	16	9.4	10.2	10.2
	Unlikely	30	17.6	19.1	29.3
		Neutral	28	16.5	17.8
		Likely	49	28.8	31.2
		Very Likely	34	20.0	21.7
		Total	157	92.4	100.0
Missing	99.00	2	1.2		
	System	11	6.5		
Total		13	7.6		
Total		170	100.0		

A significant association was found between age of the respondents and independent travel to a future Australian geotourism site. All the age groups expressed that they were likely to travel independently to an Australian geotourism site. Compared to the rest of the age groups, the respondents aged 15-24 were likely to be more dichotomic in their interest. Two thirds of them were 'very likely' to travel to an Australian geotourism destination independently whereas the interest of other age groups was more evenly distributed. The independent variables such as education level, employment status, employment sector and family income did not show significant associations with dependent interests of travel to an Australian and overseas geotourism site within a tour or independently.

Cross-tabulation analyses were also conducted to examine the relationships between the demographic characteristics of the respondents and their travel purposes. A significant association was found between gender and the travel purpose 'experiencing a different life style'. The majority of male respondents was indifferent (41%) or believed that it was unimportant (34%) to experience a different lifestyle in a geotour, whereas the majority of female respondents thought it was not as important (60%). A moderate association was found between gender and 'enjoying fine food and wines'. Males and females were found to have different perspectives in relations to enjoying wine and food during their travel to geotourism sites. More than a third of female respondent found it 'very important' whereas only 8% of male respondents considered it 'very important'. The result implies that fine-dining options would be crucial to attract female travelers but not necessarily to male travellers.

The respondents also suggested that 'visiting destinations offering a unique bundle of features and attractions (i.e. ecology, geology, history and culture)' is important.

In summary, reflecting on the extensive work undertaken by Stokes, et al. (2003), the respondents were asked to indicate their level of agreement on the purpose of visiting a 'geotourism' site by stating their graded views about various offered purposes. The results of this analysis summarises the travel purpose of the respondents in descending order of importance as follows.

From Very Important (All respondents)

- Increasing knowledge of geological sites and landforms
- To satisfy my curiosity
- To have a memorable experience

- To obtain intellectual stimulation
- Visiting destinations offering a unique bundle of features and attractions (i.e. ecology, geology, culture and history)
- Seeing something different
- Visiting geological sites and landforms underpinning unique ecological sites (flora/fauna)
- Visiting new destinations where I can experience the outdoors but still have comfortable accommodation
- Visiting places where I can walk around in historic/charming towns/locations
- Getting some exercise
- Visiting a destination valued by most people (i.e. World Heritage)
- Meeting people from other cultures
- Visiting favorite destinations that I have been to before
- Enjoying different fine food and wines
- Being with my family and friends
- Experiencing a different lifestyle
- Physically resting/relaxing
- Being daring and adventuresome
- Being able to share my travel experiences after returning home
- Visiting destinations offering a wide variety of cultural/art events and attractions

To Very Unimportant (All respondents)

Summary of Findings from the Market Research

1. 72% of the respondents fell in age category 45-70 years old.
2. 96% of the respondents had first or second degree education level.
3. the respondents had different social and esteem needs and wants, had good gross income and would be able to afford travel to geotourism sites in Australia and overseas.
4. Overall respondents preferred to travel to an Australian and overseas geo-site independently rather than take group tours, although there were different responses depending on age and destination type.
5. The most important purposes for the respondents were found to be, inter alia; increasing knowledge of geological sites and landforms; to satisfy curiosity; to have a memorable experience; to obtain intellectual stimulation; and visiting destinations offering a unique bundle of features such as ecology, experience of different cultures and history by satisfying their curiosity. The female respondents placed a higher level of importance on visiting destinations offering a unique bundle of these features.
6. The female respondents placed a higher level of importance on enjoying fine foods and wines.

Mao et al. (2009) concluded that research on geotourism and geotourists is in its infancy and that the research undertaken represented a small-scale preliminary investigation into the demand for geotourism products by potential Australian geotourists. They also concluded that the findings indicated that there is a strong interest in: visiting geotourism sites, increasing knowledge in history and geology, meeting people from different cultures, enjoying outdoor activities, and staying

in simple accommodations.

The respondents were found to prefer to travel to Australian and overseas geosites independently rather than participate in organised tours, maybe because such tours did not exist, or if they did, they did not satisfy the respondent's needs and wants. Following on from the findings, a number of recommendations were made in relation to the future development of geological destinations in Australia. They concluded that

- Future geotourism development should focus on the 'older generation/retired/empty nest' market. These people have more time and money to spend on geological trips. They also have more interest in geotourism so will be more enthusiastic about the potential travel opportunities.
- Most respondents expressed the desire to travel by themselves instead of as part of an organised tour. This is because they prefer an authentic experience away from groups.
- While this research focused on professionals involved or interested in geological matters, it was suggested that further research is undertaken on other professions such as teachers, medical professionals and engineers, etc. who are not members of a geological society.
- Destination development should include the five A's (that is, Access, Accommodation, Activities, Attractions, Amenities) for different travellers (independent travellers and tour groups), and particularly for people with disabilities.
- As geotourism destinations sometimes occur in relatively remote places, it was considered important to emphasise safe practices and consider ready access to medical facilities especially for elderly people in case of injuries.
- Geotour transport must comply with high levels of safety as travellers attach a high importance to this requirement.
- Comprehensive information about the site should be provided to tourists before their visit by way of websites, in brochures or information at visitor centres.
- Accurate, quality information was considered important across a range of levels including road signage, exhibit boards, maps, and by tour guides etc.
- While geotourism development is sought, this should not be at the expense of conservation of sites. Thus developers and land managers should be encouraged to seek a balance between the conservation and development of geotourism sites.

It should be noted that this research project has not been repeated by other workers, and represents the only research undertaken to date of determining the extent of the interest of members of an Australian geoscience society in participating in domestic and overseas travel in geotourism related activities.

Defining the Target Customers – the 45 y.o. plus Market for Geotourists

Having regard to the first of the abovementioned research conclusions, it was noted that in 2008, the number of Australians over the age of 45 was predicted to exceed those under 45. Broadly speaking, these people fell into two groups i.e. 'mature or seniors' (+63) and 'baby boomers' (45 – 62). Baby boomers embrace new technologies and are very open and adaptable, going online frequently. They are known to be especially confident with travel sites, both for research and purchases.

Various studies undertaken by Tourism Research Australia since 2008 have examined these age profiles in considerable detail particularly from a life-stage analysis viewpoint. The following observations have been established.

- People in their late working life (ages 50-59, with or without children) are generally 'empty nesters' who possess large discretionary incomes, as they are generally debt free after having paid off their mortgages, their children will have completed or neared completion of their higher education, and most will no longer have older children living at home.
- However, for those in early post retirement (ages 55-64, not working), they are also largely debt free with even more discretionary income available for travel purchases.
- Those in late post retirement (ages 65-69, not working), possess much more time to investigate travel and other purchase and weigh up the value of their purchase, and make more considered decisions than younger groups.
- Finally, for those later in life (+70), as technological, health and medical advances continue, life expectancies will continue to increase, resulting in this group being healthier, fitter and more able to continue to travel than past generations reaching this age.

Stroud (2005) has argued that lifestyle not age is the key determinant in marketing to the '50-plus market'. He argued that whilst age predicts an 'average' of customer behaviour, life style predicts actual behaviour. Based on extensive studies undertaken with over 2000 respondents in the UK, Stroud has defined seven lifestyle groups, of which three groups fall into the grouping of high affluence and a progressive outlook, and are therefore most likely to be interested in new travel products.

- Live Wires (17% of the +50 market, average age of 58) – people who have busy and fulfilling lives – they enjoy technology and are keen to keep up to date with the latest developments. Socialising and holidaying are important parts of their lives, as is maintaining a healthy lifestyle. Their main priority is to continue enjoying their comfortable existence.
- Bittersweet Have it All (11% of the +50 market, average age of 65) – people who are financially secure, live in comfortable homes and take regular holidays. They enjoy good health and overall are living a comfortable retirement. However, they tend to reject change, are intolerant and self-righteous, and are not happy with the way the world is developing.
- Rat Race Junkies (15% of the +50 market, average age of 54) – people who are ambitious and still working. Many are bringing up their second or third family, are anxious about their finances, but won't compromise their buying habits. They like feeling good about themselves and are driven to succeed in their career, home and family. They are anxious about how the future might develop and assume that they will work forever, out of both interest and financial need.

Marketing to the 'Baby Boomer' Geotourists?

The following broadly describes the characteristics of what could be grouped as 'baby boomer' travelers considered attractive for experiential tourism marketing. Australian demographers and researchers typically describe 'baby boomers' as representing people born between 1946 and 1964 during the post-World War II baby boom. They could be specifically described as follows.

- Age Group, 45 to 62 (2008), 55 to 72 (2018)
- Lifestyle rather than age predicts actual behaviour.
- 'Live Wires' Lifestyle – people who have busy and fulfilling lives – they enjoy technology and are keen to keep up to date with the latest developments.
- Their main priority is to continue enjoying their comfortable existence.
- The older members of this group are also largely debt free with discretionary income available for travel purchases.

Ten years on, this profile remains by and large unchanged in Australia. In fact, a substantial visitor survey, the Gulf Savannah Tourism Research Report (2013) was undertaken in an outback area of Far North Queensland which is considered a prime area for geotourism. Predicated on the results of previous longitude studies which identified that leisure visitation to this region was dominated by Australians aged 50 years or more, often categorised as 'grey nomads', the survey results confirmed that older Australians and couples still dominated the leisure/holiday market.

- 59.6% of the survey respondents were travelling as part of a couple.
- 64% of travelers were aged 60 years or over.
- 95.2% of the survey respondents were Australian.

Sensitive to ageism related concerns by use of the label 'grey nomads', tourism marketers are now inclined to use the alternative categorisation of the label 'empty nesters' recognising that this group exhibit all of the characteristics of 'Live Wires'.

'Alumni' Geotourists?

Having regard to these demographic and lifestyle considerations, it is argued that geotourism, if positioned as a supplementary knowledge-adding product within an attractive ecotourism experience, will attract affluent 'over 45 y.o.' customers. These may come from amongst geoscience professionals from within these segmentations, as well as their partners and friends, particularly through alumni and professional societies such as the GSA, the Australian Institute of Geoscientists (AIG), and The Australasian Institute of Mining and Metallurgy (AusIMM).

Based on preliminary information sourced from these associations, it is estimated that the Australian market size of geologists in this age-group who are associated with these organisations (i.e. 'alumni' geologists) may be of the order of 2,200 to 2,500. There are of course other smaller geoscience societies in Australia (e.g. the Association of Applied Geochemists, the Australian Geoscience Information Association, the Australasian Quaternary Association, the International Association of Hydrogeologists, the Australian Society of Exploration Geophysicists, and the Petroleum Exploration Society of Australia). Allowing for overlapping memberships, it is not unreasonable to expect that the total 'alumni' market of 'baby boomer' geologists may be conservatively around 3,000 – 4,000 in total.

Of particular relevance is the interest shown by the American Association of Petroleum Geologists in offering two Australian geotour experiences as part of their international conference held in Australia in 2015 (Fig. 1 and 2) and Robinson and Edgoose (2016).



Figure 1. Geotour group members of the American Association of Petroleum Geologists., Three Sisters Walk Lookout, Blue Mountains National Park, New South Wales.



Figure 2. Meeting of Geotour group members of the American Association of Petroleum Geologists with indigenous Traditional Owners, Ellery Creek, West MacDonnell Ranges National Park, Northern Territory.

Secondary teachers in Australia, who specialise in either earth or environmental sciences or in geography streams of 'society and environmental studies', may also have an interest in geotourism. A recent research study suggests that a total of some 26,500 individuals may fit into this category, of which it could be expected that perhaps some 16,000 may fall within the over 45 age range. Based on these estimates, it is considered in 2009 that the over 45 y.o. market of Australian geoscience professionals most interested to participate in geotourism is of the order of some 20,000 individuals (as well as their partners).

This potential market size could be expanded by considering accessing the alumni of universities. In 2018, some 24 of the 39 Australian tertiary institutions teach earth sciences, natural or environmental courses. Most of these institutions have affiliated alumni programs. To this can be added the alumni of friends groups associated with cultural institutions committed to natural history e.g. the Australian Museum, Western Australian Museum, South Australian Museum, Queensland Museum etc.

Nevertheless, it should not be forgotten that in the wider community, other 'alumni' groupings such as the medical profession, botanists and biologists etc. represent a potential customer base. Bushwalking groups should also be considered.

Raising Geotourism Awareness amongst Australian Geoscientists, 2008 to 2018

Establishment of the GSA Geotourism Standing Committee

In recognition of overseas developments in geotourism and geoparks, the Governing Council of the GSA decided in 2011 to establish a formal Geotourism Sub Committee of its Geological Heritage Standing Committee. Later in November 2014, Council established a separate Standing Committee focusing solely on geotourism, and over the following 12 months, arrangements were put in place to provide linkages with two other large professional societies with significant geological membership – the AIG and The AusIMM. The latter society subsequently provided strong support for the concept of geotourism and geoparks in its draft Australian Heritage Strategy of the Australian Government.

Notably, one of the achievements of this initiating Geotourism Sub Committee was to obtain formal approval and adoption in Australia by the Governing Council of the GSA of a definition of geotourism as already described in this paper.

Moreover, the Geotourism Sub-Committee embarked on a campaign within the geological professional societies to promote the fact that geotourism is an emerging global phenomenon which fosters tourism based upon landscapes. It was explained that geotourism promotes tourism to geosites and the conservation of geodiversity and an understanding of earth sciences through appreciation and learning, such learnings being achieved through visits to geological features, use of geotrails and viewpoints, guided tours, geo-activities and patronage of geosite visitor centres. It was pointed out that geotourists can comprise both independent travellers and group tourists, and that they may visit natural areas (including mining areas) or urban/built areas wherever there is a geological attraction.

In summary, the campaign emphasised that geotourism achieves the following outcomes.

1. Celebrates geoheritage and promotes awareness of and better understanding of the geosciences.
2. Adds considerable content value to traditional nature based tourism which has generally focused only on a region's biodiversity.
3. Provides the means of increasing public access to geological information through a range of new ICT technology applications.
4. Contributes to regional development imperatives through increased tourist visitation, particularly from overseas.
5. Creates professional and career development for geoscientists.
6. Can provide a means of highlighting and promoting public interest in mining heritage.
7. Celebrates geoheritage and promotes awareness of and better understanding of the geosciences.
8. Adds considerable content value to traditional nature based tourism as well as cultural tourism, inclusive of indigenous tourism, thus completing the holistic construct as defined by Dowling (2013).

The GSA Governing Council also decided that the principal purpose of the Geotourism Standing Committee was to provide advice to the GSA about how best geotourism can best be advanced and nurtured in Australia with the following terms of reference.

- Promote tourism to geosites and raises public awareness and appreciation of the geological heritage of Australia including

landforms, geology and associated processes through quality presentation and interpretation.

- Provide advice to the Governing Council about how best geotourism can best be nurtured throughout all areas of Australia, including within, but not limited to, declared Australian National Landscapes, World Heritage and National Heritage areas as well as within National Parks and reserves, urban environments and mining heritage areas.
- Review and recommend strategies that offer the potential for active participation of governments, land managers, tourist bodies and GSA members in geotourism and related interpretation activities.
- Undertake conference/symposium and seminar activities directed at raising awareness of geotourism amongst Society members and others.
- Foster the publication of content which serves to raise awareness and appreciation of geotourism amongst governments, land managers, the tourism industry, the geological profession and the Australian public.

The Geotourism Standing Committee is now moving to establish state/territory based subcommittees with groups already established in South Australia, Tasmania and New South Wales, with discussions taking place in the states of Queensland and Western Australia as to how best the AIG and the GSA could collaborate in the formation of geotourism interest groups. The GSA has also been active in promoting interest in geotourism symposia at various biennial Australian Earth Science Conventions (AESC) and the 34th International Geological Congress held in Brisbane, Queensland in 2012. Geotourism (and the work of the Geotourism Standing Committee) is now prominently featured on the Society's website www.gsa.org.au

As a further development, in 2016, the Australian Geoscience Council (representing eight geological societies in Australia) decided to appoint the Chair of the Geotourism Standing Committee as its official expert spokesperson on geotourism. In addition, geotourism will feature as one of the key themes of the inaugural Australian Geoscience Council Convention to be held in October 2018.

Australia-China Memorandum of Cooperation

A highlight of the AESC 2016 convention was the signing of a Memorandum of Cooperation between the GSA and the Geological Society of China. This Memorandum of Cooperation seeks to promote better understanding and closer cooperation between the two associations for the promotion and advancement of geotourism.

It is proposed that the 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.

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. These agencies provide key advice to government agencies responsible for approving any future geopark development.

Raising Geotourism Awareness amongst the Tourism Industry, 2008 to 2018

Progress has also been made in gaining support from nature-based tourism operators. In November 2013, EA established 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 was 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 collaboration with the GSA Geotourism Standing Committee, the Geotourism Forum has organised geotourism workshops at annual Global Eco and SEGRA (Sustainable Economic Growth Regional Australia) conferences since 2015.

Conclusions

Geotourism is an emerging global phenomenon which fosters tourism based upon landscapes. Its definition has recently been defined as a form of tourism that specifically focuses on the geology and landscapes which shape the character of a region. This advances an earlier concept of geotourism as strictly 'geological tourism'. Geotourism promotes tourism to 'geosites' and the conservation of geodiversity and an understanding of earth sciences through appreciation and learning.

Geotourism is still in an early stage of commercial development in Australia. The research work undertaken in 2008 provided valuable information needs and wants of geotourists, even amongst those people who know most about geology and geomorphology. The research findings confirmed that the geotourism experience with traditional nature tourism and elements of cultural tourism creating a more holistic experience, will prove a highly attractive move towards achieving the 'experiential tourism' approach, particularly attractive to geotourists of the 45 y.o.+ demographics.

Work undertaken by the Geological Society of Australia over the past 10 years has contributed significantly to a higher level of awareness amongst Australian geoscientists and increasingly throughout the Australian community.

Ultimately it is realised that the geotourists of the future will extend to embrace a wider group of demographics including the 18 - 25 y.o.s, and to be more broadly defined globally particularly through

the delivery mechanism of the UNESCO Global Geopark program where national geoscientific assets are better understood, more intelligently interpreted, and more effectively marketed by both destination managers and tourism operators than we currently see happening in Australia.

Finally, it is axiomatic that geotourism can only develop to its full potential in any nation if it has the lobbying support and 'ownership' of its domestic geoscientists and their constituent professional societies. Reflecting on what has been achieved in gaining the support of Australian geoscientists over the past decade is the realisation that a simple market research project as described in this paper may well have provided the ignition of the interest that has ultimately developed.

Conflict of Interest

Authors declare that they have no competing interest

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