

The contemporary conservation reserve visitor phenomenon!

David Newsome¹ · Michael Hughes¹

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Abstract Visitors place a complex array of demands on conservation reserves, including provisions for recreation. Rising recreation demand includes a new suite of activities ranging from adventure racing, music events, and motorised activities to extreme sports. Policy implications raise questions anew: what is the fundamental purpose of conservation reserves—nature conservation or recreation or both, and where should the emphasis lie? There is a risk that the current and future emphasis appears to be on increased commercialisation, marketing of conservation reserves as music and/or sporting event venues, places where personal physical challenges can be undertaken alongside a mentality that celebrates human achievement rather than the appreciation of nature! Such a trend may de-emphasise visitor perceptions of conservation reserves as tools for nature conservation. The reported trend in recreational activity requires debate, policy direction and target areas need protected area management effectiveness evaluation to assess conservation implications.

Keywords Visitors · Conservation reserves · Recreational demand · Trends · Sportification · Implications for management

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✉ David Newsome
D.newsome@murdoch.edu.au

¹ School of Veterinary and Life Sciences, Environmental and Conservation Sciences, Murdoch University, Perth, WA, Australia

Introduction

Visitor numbers in most natural areas around the world are increasing (Balmford et al. 2009; Holden 2016; UNTWO 2017). In particular, the 21st century is witness to a rapidly growing global demand for recreation opportunities in conservation reserves (Eagles et al. 2002). Moore et al. (2013) made the point that more conservation reserve visitors are needed to foster advocacy for environmentally friendly experiences, such as seeing wild landscapes and observing and appreciating wildlife. Moore et al. (2013) go on to state that “*Conserving biodiversity isn’t enough. It is time for a renewed focus on visitors and their needs. Appreciating the full gamut of park opportunities is essential*”. Following on from this call for increased visitation and a greater range of opportunities for users, which potentially can lead to greater community and political support, we examine some recent trends in conservation reserve visitation and raise concerns regarding what we refer to as a ‘new wave’ of park users.

Growing public interest in conservation reserves for recreation reflects increasing wealth in both developed and developing countries, media profiling of nature, ease of access and the economic benefits derived from tourism. Furthermore, the modern leisure seeking demographic is more complex and demanding than it has been in the past. Traditionally the spectrum of recreation in protected areas comprised hiking, wildlife watching, visiting day use areas, camping, and touring by car (Ballantyne et al. 1998; Shafer and Mietz 1969). Recreation in nature is now connected with human health and well-being, commercial interests and an expanded recreation profile that includes organised hiking, orienteering, rogaining, mountain biking, the possible use of different types of vehicles and miscellaneous sporting and adventure activities (Keniger et al. 2013; Maller et al. 2006; Newsome et al. 2013).

Park managers acknowledge that it is increasingly difficult to manage recreational demands in combination with funding cutbacks and poor staffing levels (e.g., Hughes and Carlsen 2011; Leverington et al. 2010). Inadequate management resourcing inhibits the research effort required to better understand and manage the impacts of this new wave of recreation in conservation reserves (Newsome 2014; Newsome et al. 2013). Furthermore, Recher (2013) asserted that conservation reserve managers are anthropocentric and emphasise visitor recreation opportunities with nature conservation secondary to these needs. From this perspective, it appears that conservation reserve management has swung towards a recreation focus. The trend appears to be driven by private, profit motivated financial, social and/or political pressures that may have unwanted consequences for nature conservation. We therefore provide an account of contemporary conservation reserve visitor interest, describe some of the activities taking place and outline the implications of this trend for the conservation of natural areas.

The conservation reserve visitor through time

It is important to acknowledge that conservation reserves are managed for a range of purposes that have changed over time based on changing social expectations and understandings (Frost and Hall 2009). For example, the ‘first’ national park, Yellowstone, was established for its aesthetic appeal and as a representation of the American national identity through its landscapes and natural features (Hughes 1997; Runte 1997). Eagles et al. (2002, p. 6) noted the purpose of Yellowstone was established in United States law as, “... a

public park or pleasuring ground for the benefit and enjoyment of the people.” The motives for establishment and management of Yellowstone and other parks of the same era, such as Royal and John Forrest National Parks in Australia, reflected 19th century thinking about parks and nature. While some advocated establishing reserves for the conservation of nature and natural processes (Calver and Wardell-Johnson 2016), the dominant view focussed on nature as a resource for commodities and a place for outdoor recreation (Kellert 1979).

During the 20th century, the management emphasis for conservation reserves remained on visitor recreation but included a shift toward wildlife and habitat protection (Kellert 1979; Recher 2015). While recognising the importance of recreation, Eagles et al. (2002) stated that the world’s conservation reserves were primarily established and managed for nature conservation. In the 21st century, authors such as Worboys et al. (2015) highlight that conservation reserves are managed to cater for a range of expectations. While conservation of nature is identified as a central motivation, such places are also expected to deliver cultural, economic, and social benefits. It is apparent that the rationale for conservation reserves has moved through several phases of emphasis, from a commodity and recreation resource in the 19th century through to wildlife and habitat protection in the 20th century, then burgeoning to a range of ecosystem services in the 21st century that includes a range of adventure and competitive sport oriented recreation.

Responsibly catering for recreation in conservation reserves is a long-standing issue, with concerns raised about the increasing demand for leisure alongside the need for nature conservation (Macgregor 1962). There was a call for policy and management that could provide for outdoor recreationists as well as protecting the natural environment that increasing numbers of visitors desired to experience. An important conclusion by Macgregor (1962) was that the benefits of recreation need to be judged on the merits of the situation. At the time, there was limited knowledge of the best way forward, although there was awareness that judgements about usage should be based on detailed analysis. Newsome (2014) pointed out that such an analysis is lacking for most protected areas. This is concerning given the expanding array of activities taking place in conservation reserves today.

The present-day conservation reserve visitor interest spectrum

The social and biophysical implications of this 21st century suite of recreational interests are poorly investigated, particularly in the context of the mandate of reserve management for the dual purpose of recreation and conservation. Uncertainties surround whether negative impacts occur. The literature indicates that impacts are possible (Newsome 2014) and could vary depending on season, type of activity, how many people are involved, how frequently the activity takes place, and how well the activity is managed (e.g., Pickering 2010; Newsome 2014; Newsome et al. 2011, 2013).

Table 1 provides an overview of recent and growing trends. These trends relate to the increasing wealth and mobility of an expanding human population. Currently there is unprecedented access to every corner of the planet and the wide availability of vehicles that provide access to what were inaccessible and remote areas. It is possible for the public to access critically endangered wildlife, ecologically sensitive environments, mountain summits, and penetrate cave systems. There has always been variable human interest in use of conservation reserves, but the difference is the increased scale of commercialisation, the

Table 1 The present day conservation reserve visitor phenomenon

Park visitor and managerial factors influencing trends in the way people take an interest in and use conservation reserves	Characteristics of relevance in regard to the nexus between recreational activity and conservation	Examples of activities that require management control and appropriate policy development
Growing human population interested in undertaking a diversity of outdoor experiences	Substantial increases in domestic and international tourism.	Global tourism currently estimated to be at around 1.4 billion people and predicted to rise to 1.8 billion by 2030 (Ruck 2012; Newsome et al. 2013; UNWTO 2017; Holden, 2016; Tourism-Review 2016)
Increased affluence and mobility such as the availability of low cost flights	Increased global access to natural environments and improved access into natural areas. Proliferation of tour and travel businesses offering a range of outdoor and nature based tourism experiences	Ecotourism is considered to reflect around 20% + of total global tourism activity but the figure for recreation in outdoor environments is likely to be much higher (Balmford et al. 2009; Newsome et al. 2013; UNWTO 2017; Holden 2016)
Proliferation of access infrastructure and engineered structures	Designed to facilitate access and contain visitor impacts but also includes the creation of engineered experiences to attract people to parks	Catwalks, chair lifts, cable cars, elevators, rail cars, lookout towers, (Hughes and Morrison-Saunders 2003; Zhang et al. 2009)
Increased scale of commercialisation of outdoor activities	Commercial sponsorship leading to organised group events that may involve many participants, spectators, support vehicles and the erection of temporary structures	Competitive sporting events, adventure racing, endurance events, reality TV productions (Newsome and Lacroix 2011; Newsome et al. 2011; Newsome 2014)
Marketing natural areas as event settings and places of excitement and adventure	Adventure racing Events Music events and festivals Motor rally events	Competitive sporting events, endurance events, reality TV productions (Newsome et al. 2011; Jones et al. 2013, 2015; Newsome 2014)
Profiling of a range of personal experience objectives and challenges in magazines, on the internet and through mobile devices	Pokemon Go App. phenomenon Geocaching Motorised recreational activities Short notice organisation of car rallies, mountain bike races and fun runs	Use of quad bikes, trail bikes, off-road vehicles, mountain bike activity in steep terrain and sensitive environments, marathon events in protected areas and use of mobile phone apps to encourage searching for items that are hidden or can be collected via an electronic device (Balmford et al. 2002; Newsome et al. 2011; Jones et al. 2013, 2015; Newsome 2014)

Table 1 continued

Park visitor and managerial factors influencing trends in the way people take an interest in and use conservation reserves	Characteristics of relevance in regard to the nexus between recreational activity and conservation	Examples of activities that require management control and appropriate policy development
Availability of devices to confirm personal achievement	GoPro Mobile phone communication with various apps. and platforms Use of selfie sticks	The nature of advertising filming devices and promoting the use of mobile phone apps can encourage inappropriate access to wildlife, habitats and ecologically sensitive areas (Balmford et al. 2002; Outsideonline 2014; The Guardian 2017)
The idea that ‘we’ can do anything anywhere!	Park management approved events/festivals/activities Audio-visual augmentation	Live concerts, outdoor theatre, outdoor movies, (Wildcard Blogs 2013; Purkrabek 2016) Recorded animal calls, recorded music, spoken word, light shows, sculptures, art works, video (Wildcard Blogs 2013; Purkrabek 2016)
The search for higher sensory experiences, seeking to impress and entertain friends/others and the promotion of risk as fun	Extreme sports Extreme ironing Naked body exposure photographs on mountain summits Other stunts such as jumping off landforms Defacing sensitive and non-resilient environments	Such activities do not support learning, the appreciation of nature or conservation. Instead they are human-centric in focus and therefore require ranger presence to discourage such activities (BBC 2015; Perth Now 2017; The Independent 2017)

personal achievement mentality, the buzz of doing something in a different place and fed by the marketing of outdoor clothing and equipment (Metzler 2015). How to ‘play’ in natural areas is promoted on television, GoPro marketing, YouTube, in magazines, and via smartphone and similar devices (e.g., Outsideonline 2014; Verity 2016). Websites and social media contain must/do/must see collections of experiences along with video and photographic evidence of the activities that can be undertaken.

Audio-visual augmentation, planned events/festivals, engineered experiences, and sportification are now part of the modern visitor suite of interests (Table 1). Conservation reserves, such as national parks, are now popular venues for music concerts and other cultural events as a means for attracting visitors and funding (e.g., Purkrabek 2016; Wildcard Blogs 2013). Event organisers argue that such events help profile reserves and provide funding for conservation. Events can span many forms ranging from outdoor symphony orchestras through to charity car rallies that cross over into the sportification category (e.g., Jones et al. 2013). Built structures, such as boardwalks, canopy walkways and viewing platforms are commonly installed in conservation reserves as a means of value adding, attracting more visitors and mitigating impacts. However, Zhang et al. (2009)

noted that such structures can alter visitor experiences and limit understanding of the natural environment. Moreover, site development, the purpose of which is to contain and manage visitor impacts, can lead to extensive management footprints that are expensive to maintain or don't even work (e.g., Ballantyne and Pickering 2015a; Newsome et al. 2012)

Sportification refers to the use of natural areas as a backdrop for sporting events that tend to draw on the concept of 'human versus wild.' Organisers of these events are constantly seeking new venues and challenges for competitors, such as iconic natural areas that include Torres del Paine National Park in South America, the Kruger National Park in South Africa, and Mount Kinabalu in Asia (see Newsome 2014). Many conservation reserves are now targeted for a suite of activities that promote extreme fitness, endurance, and personal achievement. At the same time, these events are touted by the organisers as nature experiences benefiting the places in which they occur due to increased media exposure and public promotion. Newsome et al. (2011) and Newsome (2014) raised concerns that the rise in competitive events in conservation reserves may result in negative impacts on the biophysical environment and public appreciation of nature. Sportification influences the type of connection people make with nature, perhaps with nature seen as an obstacle or challenge to be conquered, rather than for its nature conservation values.

Expanding the visitor use spectrum may encourage conservation reserve visitation, which in turn fosters public support for reserves and nature conservation (noted by Moore et al. 2013; Moyle and Weiler 2016). However, it may also foster support for a type of natural area that is not aligned with the type that conserves ecological processes and contributes to biodiversity in the manner espoused by the World Parks Congress and IUCN (Worboys et al. 2015). It is telling that a recent Protected Planet Report states that a new definition of conservation reserve is needed with a stronger emphasis on nature conservation (Juffe-Bignoli et al. 2014). One of the reasons behind this view is that despite a global increase in conservation reserve areas many species continue to decline.

Conclusion

Currently there is little evidence that a mix of increased visitor numbers, profit driven events, and public entertainment are benefiting conservation reserves (see Newsome 2014; Newsome et al. 2013). It is possible that the trend summarised in Table 1 is leading to detrimental ecological and social impacts. Conservation reserve managers and policy makers need to carefully consider what is being promoted and allowed in conservation reserve networks if they are to encourage appropriate public support and adequately protect biodiversity. Currently there are no reliable data as to how conservation reserves might benefit from the current range of activities and events. At the same time, recreation ecology research has demonstrated that there can be significant biophysical impacts arising from the various adventure and sporting activities that take place in conservation reserves (e.g., Ballantyne et al. 2014; Ballantyne and Pickering 2015b; Newsome and Davies 2009; Newsome et al. 2008, 2013; Pickering et al. 2010).

We are of the view that increasing visitor numbers coupled with a trending 'fast food' entertainment style of experience compromises the conservation mandate. The pertinent question is whether nature as a venue for diversionary or competitive entertainment is good for fostering public support required for long-term nature conservation. We are of the view that it is not. In our view, a key question must be re-visited: what is the fundamental purpose of conservation reserves—conservation or recreation or both and where should the

emphasis lie? We suggest that conservation should take precedence in most cases. However, we recognise the requirement for certain actions to redress the balance. First, conservation reserves need to be adequately funded in regard to nature conservation, educating the public and managing visitation. Secondly, policies need to be developed that address appropriate visitor use. Thirdly, a system of monitoring conservation reserve management effectiveness, as described by Leverington et al. (2010) and Moore and Hockings (2013), requires implementation. Such a system enables judgements to be made regarding the effectiveness of conservation outcomes and nominating places where ‘the contemporary visitor’ may or may not undertake a particular recreational activity. While recreation will always be a part of conservation reserve management, it is important to ensure the visitor experience works to build learning and public support for nature conservation rather than nature as a backdrop for entertainment.

References

- Ballantyne M, Pickering CM (2015a) The impacts of trail infrastructure on vegetation and soils: current literature and future directions. *J Environ Manage* 164:53–64
- Ballantyne M, Pickering CM (2015b) Recreational trails as a source of negative impacts on the persistence of keystone species and facilitation. *J Environ Manage* 159:48–57
- Ballantyne R, Packer J, Beckman E (1998) Targeted interpretation: exploring relationships among visitors’ motivations, activities, attitudes, information needs and preferences. *Journal of Tourism Studies* 9(2):14–25
- Ballantyne M, Gudes O, Pickering CM (2014) Recreational trails are an important cause of fragmentation in endangered urban forests: a case-study from Australia. *Landsc Urban Plan* 130:112–124
- Balmford A, Clegg L, Coulson T, Taylor J (2002) Why conservationists should heed Pokémon. *Science* 295(5564):2367
- Balmford A, Beresford J, Green J, Naidoo R, Walpole M, Manica A (2009) A global perspective on trends in nature-based tourism. *PLoS Biol* 7(6):e1000144
- BBC (2015) Mount Kinabalu naked photo accused jailed. <http://www.bbc.com/news/uk-england-derbyshire-33105999>. Accessed 1 Aug 2017
- Calver M, Wardell-Johnson G (2016) Protected areas, conservation and resource capacity: historical lessons for conservation from Western Australia’s South Dandalup Reserve. *Aust Zool*. doi:10.7882/AZ.2015.027
- Eagles PF, McCool SF, Haynes CD (2002) Sustainable tourism in protected areas: guidelines for planning and management (No. 8). IUCN, The World Conservation Union
- Frost W, Hall CM (eds) (2009) *Tourism and national parks: international perspectives on development, histories and change*. Routledge, London
- Holden A (2016) *Environment and tourism*, 3rd edn. Routledge, London
- Hughes R (1997) *American visions, the epic history of art in America*. The Harvill Press, London
- Hughes M, Carlsen J (2011) National park user pays systems in Australia. Cost recovery vs access for all? *J Tour Leis Stud* 17:129–146
- Hughes M, Morrison-Saunders A (2003) Tourist attitudes to a modified natural attraction. *Soc Nat Resour* 16(3):191–203
- Jones C, Newsome D, Macbeth J (2013) Governance and environmental implications of motorized events: insights from Australia and avenues for further Inquiry. *Curr Issues Tour*. doi:10.1080/13683500.2013.854753
- Jones C, Newsome D, Macbeth J (2015) Understanding the conflicting values associated with motorised recreation in protected areas. *Ambio*. doi:10.1007/s13289-015-0721-1
- Juffe-Bignoli D, Burgess ND, Bingham H, Belle EMS, de Lima MG, Deguignet M, Bertzky B, Milam AN, Martinez-Lopez J, Lewis E, Eassom A, Wicander S, Geldmann J, van Soesbergen A, Arnell AP, O’Connor B, Park S, Shi YN, Danks FS, MacSharry B, Kingston N (2014) *Protected planet report 2014*. UNEP-WCMC, Cambridge
- Kellert S (1979) *Public attitudes toward critical wildlife and natural habitat issues. Phase 1*. US Department of Commerce, Washington, DC

- Keniger LE, Gaston KJ, Irvine KN, Fuller RA (2013) What are the benefits of interacting with nature? *Int J Environ Res Public Health* 10(3):913–935
- Leverington F, Costa KL, Pavese H, Lisle A, Hockings M (2010) A global analysis of protected area management effectiveness. *Environ Manage* 46(5):685–698
- MacGregor JJ (1962) Conservation and outdoor recreation in the United States. *Nature* 196:1134–1137
- Maller C, Townsend M, Pryor A, Brown P, St Leger L (2006) Healthy nature healthy people: ‘contact with nature’ as an upstream health promotion intervention for populations. *Health Promot Int* 21(1):45–54
- Metzler B (2015) Global running: Chilean Patagonia is the next frontier of trail running. *Competitor.com*. http://running.competitor.com/2015/01/trail-running/global-running_121907#E0HCqT6O5ghjxME.99. Accessed 30 Jan 2015
- Moore SA, Hockings M (2013) Australian protected areas and adaptive management: contributions by visitor planning frameworks and management effectiveness assessments. *Aust J Environ Manage* 20(4):270–284. doi:10.1080/14486563.2013.833487
- Moore SA, Weiler B, Moyle B, Eagles P (2013) Our national parks need visitors to survive. <http://theconversation.com/our-national-parks-need-visitors-to-survive-15867>. Accessed 2 Aug 2017
- Moyle BD, Weiler B (2016) Revisiting the importance of visitation: public perceptions of park benefits. *Tour Hosp Res*. doi:10.1177/1467358416638918
- Newsome D (2014) Appropriate policy development and research needs in response to adventure racing in protected areas. *Biol Cons* 171:259–269
- Newsome D, Davies C (2009) A case study in estimating the area of informal trail development and associated impacts caused by mountain bike activity in John Forrest National Park, Western Australia. *J Ecotour* 8:237–253
- Newsome D, Lacroix C (2011) Changing recreational emphasis and the loss of ‘natural experiences’ in protected areas: an issue that deserves consideration, dialogue, and investigation. *J Travel Leis Stud* 17:315–333
- Newsome D, Smith A, Moore S (2008) Horse riding in protected areas: a critical review and implications for research and management. *Curr Issues Tour* 11(2):144–166
- Newsome D, Lacroix C, Pickering C (2011) Adventure racing events in Australia: context, assessment and implications for protected area management. *Aust Geogr* 42(4):403–418
- Newsome D, Dowling R, Leung Y-F (2012) The nature and management of geotourism: a case study of two established iconic geotourism destinations. *Tour Manag Perspect* 2–3:19–27
- Newsome D, Moore S, Dowling R (eds) (2013) *Natural area tourism: ecology, impacts and management*, 2nd edn. Channel View Publications, Clevedon
- Outsideonline (2014) For its next act, GoPro takes over the world. <https://www.outsideonline.com/1926236/its-next-act-gopro-takes-over-world>. Accessed 1 Aug 2017
- Perth Now (2017) In the buff on the bluff: hikers take nude photos at Bluff Knoll summit <http://www.perthnow.com.au/news/western-australia/news-story/f71fdca68d2a9ae27d5e946b13c870b>. Accessed 1 Aug 2017
- Pickering CM (2010) Ten factors that affect the severity of environmental impacts of visitors in protected areas. *Ambio* 39(1):70–77
- Pickering CM, Hill W, Newsome D, Leung Y-F (2010) Comparing hiking, mountain biking and horse riding impacts on vegetation and soils in Australia and the United States of America. *J Environ Manage* 91:551–562
- Purkrabek (2016) A music lover’s guide to the national parks. <http://www.afar.com/magazine/a-music-lovers-guide-to-the-national-parks>. Accessed 26 May 2016
- Recher H (2013) What makes this old scientist grumpy. In: Lunney D, Hutchings P, Recher H (eds) *Grumpy scientists: the ecological conscience of a nation*. Royal Zoological Society of New South Wales, Mosman, pp 1–8
- Recher H (2015) Politics, emotion, and ideology: the reality of reserve selection for nature conservation in Australia. *Aust Zool*. doi:10.7882/AZ.2015.024
- Ruck J (2012) The destinations under threat from tourism—in pictures. <https://www.theguardian.com/environment/gallery/2012/may/30/destinations-under-threat-tourism-in-pictures>. Accessed 1 Aug 2017
- Runte A (1997) *National parks: the American experience*. University of Nebraska Press, Lincoln
- Shafer E, Mietz J (1969) Aesthetic and emotional experiences rate high with northeast wilderness hikers. *Environ Behav* 1(4):187–197
- The Guardian (2017) ‘Turn it off’: how technology is killing the joy of national parks. <https://www.theguardian.com/environment/2017/may/12/america-national-parks-noise-pollution-technology-drones>. Accessed 1 Aug 2017

- The Independent (2017) Tourists carve 'send nudes' into mossy Iceland Hill. <http://www.independent.co.uk/travel/news-and-advice/iceland-tourism-damage-graffiti-moss-send-nudes-nesjavellir-gunnar-birgisson-arni-tryggvason-a7789156.html>. Accessed 1 Aug 2017
- Tourism-Review (2016) Mass tourism affects major travel destinations in Europe. <http://www.tourism-review.com/mass-tourism-hit-santorini-venice-and-ibiza-news5139>. Accessed 1 Aug 2017
- UNWTO (2017) Tourism highlights. World Tourism Organisation, Madrid
- Verity, R. (2016) 7 of the scariest bike trials in the world. <https://www.redbull.com/se-en/7-of-the-scariest-mountain-bike-trails-in-the-world>. Accessed 17 Aug 17
- Wildcard Blogs (2013) Sunset serenade: classical music in the Kruger. <http://www.wildcard.co.za/blog.htm?action=view-post&id=4402>. Accessed 26 May 2016
- Worboys G, Lockwood M, Kothari A, Feary S, Pulsford I (eds) (2015) Protected area governance and management. ANU Press, Canberra
- Zhang CZ, Xu HG, Su BT, Ryan C (2009) Visitors' perceptions of the use of cable cars and lifts in Wulingyuan World Heritage Site, China. *J Sustain Tour* 17(5):551–566