Understanding the conflicting values associated with motorized recreation in protected areas

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Abstract The International Union for the Conservation of Nature World Parks Congress in 2014 reported that the quality of management of protected areas is crucial in halting the loss of the world's biodiversity and meeting global environmental challenges. However, increasingly high-impact activities, including motorized recreation are occurring in protected areas such as national parks, creating an ongoing clash of values and further compromising protected area management. This paper discusses the values of protected areas in the context of increasingly high-impact motorized usage, the impact of divergent values placed on green spaces such as national parks, and perceptions about these spaces. Given the changing global context of this millennium, and increasing populations requiring space for high-impact activities including motorized recreation, rethinking recreation in protected areas is needed. A protected area classification to accommodate high-impact activities away from vulnerable natural areas may assist in maintaining protected area quality.

Keywords Protected areas · National parks · Motorized recreation · IUCN · Conservation

INTRODUCTION

In recent decades, in many parts of the world, there has been a significant increase in protected areas being used for recreation and associated sporting activities (Newsome et al. 2013; Newsome 2014). Some of this increased diversity of demand includes motorized access to wild and remote sites via off-road vehicle (ORV) club activities through to organized motor sports (Priskin 2004; Groom et al. 2007; Grant and Doherty 2009; Jones et al. 2013;

Newsome et al. 2013; Newsome 2014; Queensland Government 2015). In particular, the trend for outdoor spaces such as national parks to accommodate increasing recreational demand, including a burgeoning motorized recreation culture is occurring in parallel with myriad challenges to natural and protected areas globally. Ongoing threats to the integrity of protected areas also include habitat fragmentation, land clearing, extractive industries, climate change, wildlife crime, invasive species, disease, and chemical and other pollutants, as well as reduced funding and management (e.g., see Sala et al. 2000; Corlett 2009; Burchart et al. 2010; Leverington et al. 2010; Laurance et al. 2011; IUCN 2014).

While global organizations such as the IUCN are engaged in tackling immediate environmental threats, researchers have argued that some recreation activities and related outdoor adventure sports are also potentially a significant threat to the biodiversity of many natural areas (e.g., see Buckley 2004; Pickering and Hill 2007; Cater and Hales 2008; Newsome and Lacroix 2011; Newsome et al. 2011; Burgin and Hardiman 2012; Newsome 2014). Some recreational activities have the potential to evolve from small and relatively low-impact situations into larger and increasingly higher impact organized events. This comes with commercialization of such activities attracting more participants, and associated businesses seeking to increase markets and use such events as marketing tools (Buckley 2006; Newsome and Dowling 2006; Burgin and Hardiman 2012; Jones et al. 2013; Newsome et al. 2013; Newsome 2014).

This paper considers recreational demand on outdoor space, in particular the potentially high-impact activity of motorized recreation. In doing so, we re-visit the stated purpose and values of protected areas such as national parks and situate these in the context of motorized

recreational demand. Such demand occurs on a complex spectrum of motorized activity, and motorized access to natural areas can be understood more clearly if the activity is viewed in terms of a broad range of user attitudes and approaches. For example, at the low impact, ‘passive’ end of the spectrum motor vehicle recreationists may be participating in a wildlife tour on established tracks. Such users may be environment enthusiasts and even engage in conservation-related activities. Resultant environmental impacts will depend on user behavior, track integrity and condition, and the number of people accessing a particular area. However, as Jones et al. (2013) observed, motorized user demand on natural spaces moves along a spectrum from recreational activity through to competitive activity, can involve larger numbers of participants, and in some cases can be major events with commercial sporting interests. Accordingly, this paper inquires into the values underpinning motorized recreational demand and activity. The impact of divergent values placed on green spaces such as national parks, and perceptions about these spaces, is explored before considering the need for governance and management of land to include adequate understanding and planning for potentially high-impact recreational activities and the needs of local populations in ways that support protected area management.

CONTEXT

The stated purpose and value of protected areas

The IUCN defines protected areas as incorporating spaces such as national parks and areas of wilderness as well as urban parks, and can be terrestrial, marine, and freshwater, their main objective being long-term conservation. Many regions have adopted the IUCN’s six-level protected area categorization (see Table 1 below), with a set of guiding principles common across categories, including that these areas should seek to retain and if possible to increase the natural condition of the ecosystem under protection (Worboys et al. 2015).

Socio-cultural values and the appreciation of nature

While the values that underlie social systems are self-evident in some contexts, such as religion for example, the value-laden language, politics, and processes that contribute to determining land use are typically more subliminal. Stenseke (2012) has observed that the ways in which people define nature and associated concepts is itself socially and culturally constructed. Costanza et al. (1998) argued that individually, and organizationally, people are

Table 1 IUCN six-level system of categories (Dudley 2008, pp. 13–23)

Category	Definition
Category 1a	Strictly protected areas set aside to protect biodiversity and also possibly geological/geomorphological features, where human visitation, use, and impacts are strictly controlled and limited to ensure protection of the conservation values. Such protected areas can serve as indispensable reference areas for scientific research and monitoring
Category 1b	Usually large unmodified or slightly modified areas, retaining their natural character and influences, without permanent or significant human habitation, which are protected and managed so as to preserve their natural condition
Category II	Large natural or near natural areas set aside to protect large-scale ecological processes, along with the complement of species and ecosystems’ characteristic of the area, which also provide a foundation for environmentally and culturally compatible spiritual, scientific, educational, recreational, and visitor opportunities
Category III	Set aside to protect a specific natural monument, which can be a landform, seamount, submarine cavern, geological feature such as a cave, or even a living feature such as an ancient grove. They are generally quite small protected areas and often have high visitor value
Category IV	Aim to protect particular species or habitats and management reflects this priority. Many Category IV protected areas will need regular, active interventions to address the requirements of particular species or to maintain habitats, but this is not a requirement of the category
Category V	Protected landscape/seascape is a protected area where the interaction of people and nature over time has produced an area of distinct character with significant ecological, biological, cultural, and scenic values, and where safeguarding the integrity of this interaction is vital to protecting and sustaining the area and its associated nature conservation and other values
Category VI	Conserve ecosystems and habitats, together with associated cultural values and traditional natural resource management systems. They are generally large, with most of the area in a natural condition, where a proportion is under sustainable natural resource management and where low-level non-industrial use of natural resources compatible with nature conservation is seen as one of the main aims of the area

constantly required to make decisions about land and seascapes that are effectively tradeoffs, and that it is important to consider what is being gained relative to what is being (permanently) lost when ascribing uses and values to natural areas. Such decisions are underpinned by personal, cultural, historical, economic, and social values, many of which are deeply embedded in individual and collective psyches.

Broadly, values attributed to protected areas fall under the major categories of economic, social, and environmental. Worboys et al. (2015) have identified supporting services (e.g., biodiversity maintenance and protection), provisioning services (e.g., water and food), regulating services (climate and natural hazards regulation), and cultural services (opportunities for recreation and tourism). Cultural services include esthetic values, inspiration for the arts, spiritual and cultural experiences, opportunities for peace and tranquility, and psychological wellbeing (e.g., Lemieux et al. 2012; Hughes 2014; Worboys et al. 2015). It is estimated that globally between now and 2050, there will be an increase from approximately fifty-four per cent of the world's population living in cities to seventy per cent (IUCN 2014). The relationship between the natural environment and human wellbeing and the value of green spaces to human health is increasingly being recognized as crucial in urban planning for the liveability of cities (e.g., Jones and Newsome 2015).

Ecosystem protection value

Natural areas, when adequately managed, have largely proved to effectively conserve flora and fauna and arrest biodiversity loss, critical to conserving the world's biodiversity (McNeely et al. 1994; Newsome et al. 2013; IUCN 2014; Worboys et al. 2015). The biodiversity of our ecosystems underpins our very existence (IUCN 2014). Various categories of protected areas play an important role in providing drinking water and clean air to many of the world's largest cities, and are an ongoing source of new medicines and useful knowledge. They contribute to food security, sources of employment in many countries, and storage of significant amounts of carbon and assist in the reduction of the risks and outcomes of extreme events such as floods and droughts (IUCN 2014). Natural areas have an important role in addressing significant current global environmental challenges we face. Other key values include tourism and the appreciation of nature, and the conservation of biodiversity and fostering local community engagement in regard to conserving local ecosystems (e.g., see Buckley 2008; Newsome and Hassell 2014). Increasingly, protected areas are being valued for their economic and social worth (Stolton and Dudley 2010); for example, the significant and diverse global tourism industry, with its

emergent strand of adventure tourism, which often occurs in areas such as national parks (Buckley 2006; Fennell 2008; Newsome et al. 2013).

Passive recreation value and motorized access to nature

Most countries have defined national parks as having conservation value for flora and fauna, and educational value for the enjoyment of local and visitor populations. These related dual purposes are underpinned by passive recreation (Newsome 2014). For example, in Category II protected areas, under which many national parks are classified, the objective relating to recreation is defined as being harmonious with that area (see Table 1). Off-road vehicle access can fit into this framework (except Category II) despite being regarded as a high-impact recreational activity (e.g., Buckley 2008). In a study on four-wheel drive (4WD) tourism in Australia, for example, Narayanan and Macbeth (2009) found that veterans of 4WD desert travel expressed enjoyment of passive recreation such as walking barefoot in the sand, spiritual values, and being compelled to slow down and experience nature.

The issue of motorized access into natural areas is clearly complex in terms of people's motivations and attitudes towards the environment. As with mountain biking in protected areas (see Newsome and Davies 2009), there is a spectrum of users with different interests and motivations. These range from such activities as wildlife tours, small group tours into natural areas, individual recreationists driving in natural areas such as on beaches, through to those seeking the challenges of driving in difficult terrain or in organized motor sports (e.g., Buckley 2008; Newsome et al. 2013).

UNDERSTANDING OUR AUTOMOTIVE CULTURE AND MOTORIZED RECREATION VALUES

In a sociological exploration of our relationship with the automobile, Sheller (2004) uncovered the highly sensitive emotions generated in debates around motor vehicle use, and conflicted feelings about car culture and the environment. Sheller observed that people could be both motor enthusiasts and at the same time oppose the building of new roads, for example, given the deeply embedded psychological connection that some people have with the motor vehicle and its representations of freedom and social stature. Likewise, individuals can enjoy protected areas for both passive recreation such as walking and contemplation, and high-impact activities such as motorized recreation. The emotional link between the automobile and nature is

grounded and still marketed, in the way in which motor vehicles paved the way for people to ‘get out in nature,’ synonymous with Sunday drives, family picnics, and holidays escaping the city to places such as national parks (Sheller 2004). In more recent decades, the trend has continued, with sports utility vehicles (SUV) becoming popular urban family vehicles and for going off-road. Automotive industry marketing employs depictions of nature, happy families traversing scenic landscapes, with vehicles often represented by animals, such as the Jaguar.

It is the strong subliminal emotional bonds people often have with the motor vehicle as part of the family unit and extension of self, argued Sheller, that must be understood if there is to be any significant shift in thinking about automobile use. In recent decades, increased wealth in some societies, and the commercialization and urbanization of the SUV marketed as the family car yet with the ‘edge’ of the adventure-sporting phenomenon, has contributed to wider uptake of SUV ownership, and in many countries off-road motor recreation is now a prevailing recreational activity (Albritton and Stein 2011). Motorized recreation has evolved within an automotive culture that is deeply embedded in the collective psyche as representing a particular lifestyle that includes freedom, the spirit of adventure, social status, and being outdoors.

MOTORIZED RECREATION AND MOTOR SPORTS ACTIVITIES IN PROTECTED AREAS

The wide variety and extent of motorized activities that occur in protected areas is difficult to grasp conceptually, given that at one end of the spectrum there is a range of recreationists such as individual 4WD drive enthusiasts and people getting out into nature, through to various levels and types of motor sports. Jones et al. (2013) outlined a model to capture the spectrum of motor sports in protected areas in Australia. It showed that at the extreme end of the spectrum of motorized activity in protected areas were large-scale motor sports events such as off-road rallies, potentially high environmental impact not only to the affected areas but also on public perceptions about the values of protected areas.

Provision for the Confederation of Australian Motor Sport (CAMS)-affiliated motor sports has been built into many protected area management plans in Australia, for example in Victoria, the Chiltern-Mt Pilot National Park; Warby-Ovens National Park; Great Otway National Park; Discovery Bay Coastal Park, to name just a few. However, even where protected areas have had a status excluding potentially high-impact activity, governments have overridden existing environmental legislation for the sake of high-profile motor sports events, including in areas that are

world heritage listed (Dredge and Whitford 2011; Jones et al. 2013). One example is the Australian World Rally Championship in 2009, which was held in the world heritage-listed *Green Cauldron*, remnants of an ancient shield volcano. The World Rally Championship is defined as an event that ‘pits drivers and production-based cars against some of the toughest and most varied conditions on the planet’.¹ Following opposition from some sectors of the public, and acknowledgment of the environmental sensitivity of the world heritage protected area, the event has since been moved. In another example, organizers of the Targa Rally, a 5-day event, promoted the route as traversing the Belair National Park on the final day of its course, before permission had been granted by the South Australian Environment Department. Following public outcry about environment and safety concerns, event organizers changed the route (see media reports²).

A historical and internationally renowned example of a motor sport event through natural areas is the Dakar Rally, which has been criticized for cultural, social, and environmental impact in the countries it has traversed (Hassan and O’Kane 2011). More recently, damage to archaeological heritage in Southern Peru has been linked to the Dakar Rally (see Hesse 2015). Motor sport industry researchers have observed the great commercial value of increasing ‘global motorsport presence’ in countries such as Russia and India ‘purely on the basis of consumption potential,’ and have also noted ‘opportunities to utilise Australia’s great natural resources’ given the popularity of off-road racing in Australia (Henry et al. 2007, p. 101). Protected area managers often do not have the relevant data available to determine likely and potential impacts of such activities (Newsome et al. 2013; Newsome 2014). Further, event tourism operates on tight planning schedules demanding rapid decisions (Dredge and Whitford 2011). In this context, the euphemism of ‘cutting through green tape’ (Muir 2012) has emerged in response to demands for a wide range of high-impact activities in protected areas, often without scientific investigation of short- and long-term environmental impact. While some government departments are cutting through ‘green tape,’ those responsible for maintaining biodiversity are the ‘thin green line’ of park managers (IUCN 2014), and so a clash of values and objectives is played out in government departments, and down the line to individual protected area users.

¹ <http://www.wrc.com/en/wrc/about-wrc/what-is-wrc/page/673—672-.html>.

² <http://www.abc.net.au/news/2012-07-05/car-rally-abandons-national-park-stage/4112482>; <http://www.abc.net.au/news/2012-06-18/targa-rally-belair-national-park-iain-evans/4077518>.

DISCUSSION

The conflicting values of protected areas and motorized sports and recreation

User conflict in protected areas such as national parks has been extensively researched and is a key focus for park managers (e.g., Manning and Anderson 2012). Types of conflict are often categorized as quiet versus noisy (see for example, Collins 2011, on outdoor recreation in areas of the UK). Burgin and Hardiman (2012, p. 924) argued that protected areas are ‘at risk of becoming increasingly subordinate to society’s need for commercially-driven recreation.’ The growing trend for various types of adventure racing was referred to by Arnegard and Sandell (2012) as the sportification of nature, in which one’s presence in nature is underpinned by the notion of being in competition, in contrast to passive contemplation.

In their examination of environmental, economic, and public health outcomes of staging motor sport events in Australian public spaces, Tranter and Lowes (2009, p. 152) observed that there was a dearth of discussion about the environmental impacts of hosting sports events or the way some sports ‘encourage a culture of excessive consumption (hence adding to environmental impacts).’ From the field of environmental psychology, the first meta-analysis of research to assess for the relationship between materialism and environmental outcomes showed materialism negatively linked to pro-environmental attitudes, and a similar association between environmental attitudes and behaviors (Hurst et al. 2013).

Government approval of high-impact recreation activities and adventure sports that is out of step with key conservation objectives of protected areas sends a conflicting message about protected area values (Newsome and Lacroix 2011). It also conflicts with sustainable and eco-tourism objectives of protected areas (Newsome 2014). It is unsurprising then that people are often unaware of, or grossly under-estimate, their ecological footprint in natural areas. For example, Taylor and Knight’s (2003) survey of visitor perceptions of their effect on wildlife revealed that fifty percent of participants considered that their activities had no impact on the wildlife of an area they used even though seven percent of the same area was so adversely impacted by recreationists that it was not suitable for wildlife habitation. In the long term, a paradigm shift may be necessary not only in thinking and behavior associated with natural areas, but also automotive sports and recreation. As Sheller (2004) and others have observed, this will not come easily. Sheller (p. 236) suggested that such change in thinking about a consumerist car culture and related individual behaviors and their impact on the environment and people in other regions and futures would

need integration with ‘the moral economies of the personal (including gender, race and ethnicity), locality, family and nation,’ much the way current car culture is so emotionally and psychologically embedded.

In the meantime, increasingly urbanized populations require space for a range of outdoor adventure and high-impact sports and recreational activities. The next section discusses the potential for adequate outdoor recreation provision that could also support protected areas such as national parks. The discussion concludes that while there is a need for populations to be educated about the value of adequately managed natural areas, there is also a need for governments to understand and accommodate outdoor activity demands of increasingly urbanized populations in ways that support rather than further denigrate precious ecosystems.

Managing clashing values for sustainable recreation and environments

Growing populations and urbanization in many regions, coupled with ever emerging new trends in recreation and sporting activities, have contributed to the demand for outdoor spaces, particularly near higher density regional areas (Choy and Prineas 2006). In a study of recreation in natural area policy and planning in Sweden, Stenseke (2012) argued that there was a lack of understanding about outdoor recreation needs, and that recreation was not adequately integrated into nature conservation policies, despite a growing demand for outdoor recreation due to increasing urbanization, leisure time, and economic wealth. Findings in Stenseke’s study showed that outdoor recreation was largely discussed in policies as a problem to be managed and ‘more in terms of restrictions than possibilities’ (p. 125). This may in part explain perceptions that natural and protected areas are being unnecessarily and unfairly ‘locked up.’ Stenseke argued that given research has shown people do not always need virgin bush land to enjoy experiences of nature, the ‘perceived dichotomy between preservation and use in nature conservation’ only served to confound understandings of alternative possibilities for both outdoor recreation space and nature conservation (p. 125).

Rather than continuing to operate in a context of conflicting values, opportunities for renewal of private and public degraded lands for green spaces for a range of recreation are needed. Stenseke and Hansen (2014) argued that outdoor recreation should be planned for in its own right as a separate use of land to conservation purposes, with research, education, and training from social sciences rather than being an additional responsibility of ecological professionals. In considering pressing needs for both outdoor recreation and conservation, Choy and Prineas (2006)

proposed that a category of networked regional parks, underpinned by their ability to service different recreational needs, would contribute significantly to making regions more liveable and sustainable. In their examination of regional developmental needs in South East Queensland, Australia, they argued for a renewed adoption of the ‘region’ as a useful unit for planning and governance of space. Choy and Prineas (2006) observed that escalating demands on national parks, which played a principal environmental role, required an increase in provision of lands in and around urban areas for various outdoor activities not appropriate in national parks. A regional parks category would facilitate recreational provision while at the same time providing other values both social and environmental. This has been initiated in some Australian states. A similar initiative has been adopted in parts of the UK, the USA, and Europe, and more such planning is needed. Similar green spaces close to highly populated regions are also referred to as peri-urban parks and have both local and tourism value.

A central purpose of a regional parks category is to alleviate demand on national parks for potentially high-impact activities. As they serve both local and tourism populations, they can also be of financial benefit to a region. Regional parks can serve an educative function and assist a region’s biodiversity by supporting all forms of outdoor recreation, particularly those that can adversely impact the biodiversity of national parks. Regional park networks provide people with opportunities to be in nature, with the associated mental and physical health benefits, and can facilitate a range of social and environment benefits for societies, in addition to user benefits (Choy and Prineas 2006). Acquiring more space for regional recreational parks offers potential for moving beyond the polarization of nature conservation and recreation, to achieve both aims. As Burgin and Hardiman (2012) and many others have argued, neglecting to strategically plan and develop such spaces will escalate clashes among user groups with divergent activities in protected areas, leading to further irreversible biodiversity reduction. Burgin and Hardiman (2012) are among the increasing chorus of voices urging that ‘a major paradigm shift is required...rather than continuing to assume that protected areas are the major destination for outdoor recreation, there is a need to cast more broadly for appropriate lands (private or public)’ (p. 933).

CONCLUSION

There is a steady creep of high-impact activities, including motorized recreational activity, taking place in protected areas, sometimes in areas already vulnerable and under-

resourced and managed. This is occurring at a time during which ‘threats to nature, its biological diversity and protected areas are now at the highest level in human history’ (IUCN 2014). Given significant global environment challenges and the value of protected areas in helping to meet these challenges, the conservation value of protected areas should be the critical factor in deciding whether to sanction motorized recreation or motor sports in these areas. An area’s conservation value is a crucial part of the equation in determining the potential impacts of human activities (Pickering 2010).

Many countries are increasing their protected areas as recognition of their vital role to the future of the planet (Newsome et al. 2013). However, the IUCN cautions that quality in the creation and management of protected areas is currently more vital than quantity. This was a key theme emerging from the 2014 IUCN congress, as a global analysis showed that only a quarter of the world’s protected areas were being effectively managed. Broad public ecological understanding is paramount for the integrity and quality of natural and protected areas. Divergent values placed on natural areas by governments and influential private interests in many countries only serve to confuse public understanding of the value of protected areas in meeting global challenges.

Use of protected areas such as national parks for increasingly high-impact activities, such as motorized recreation, needs to be rethought given the changing global context of this millennium. Adequate regional park networks including the reclamation of degraded lands that can meet the needs for a range of outdoor activities offer some potential toward bridging the current clash of values, and alleviating unsustainable high-impact activity demands on protected areas. Better public policy, informed by environmental and social knowledge, and a coordinated approach are needed to meet the values and needs of environmental conservation and outdoor recreational demand, and in particular motorized activities. More work is required to create a conceptual knowledge base about motorized and other high-impact recreation and sports activities to inform policy and management to meet populations’ needs without further complicating and compromising protected area management effectiveness.

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