

Tourism and Biodiversity Conservation in Australian National Parks

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ABSTRACT

Australian biodiversity is facing many challenges, from weed invasion to global climate change, and the recent moves to 'open up' national parks to new activities and facilities could add to some very severe threats. While ecologically sustainable tourism in national parks has many benefits, it is feared by many that new developments are happening too fast and with inadequate research, monitoring programs and conservation planning. Too little is known about many of our species and ecosystems to be confident of 'no impact,' and there are insufficient plans for increasing our knowledge. Other recent events such as legislative changes and cuts to the funding of the sciences and national parks could compound this problem. There are however other potential means of assisting the tourism industry in natural and semi-natural areas, as well as ways of reducing the expense of necessary research, and these are not currently being sufficiently explored.

Keywords: National Parks, Biodiversity Conservation, Ecotourism

INTRODUCTION

Tourism is widely recognised by federal and state governments as one of the major pillars of the Australian economy (e.g. Tourism Research Australia 2013). Tourism operators however have been hit by a number of problems in recent years, such as the strength of the Australian dollar (encouraging international holiday-makers to seek cheaper destinations), the global financial crisis causing many would be visitors to abandon plans for any long-haul destination, over-dramatised reports of fires and floods in the international news suggesting these very real problems to be more widespread or long-lasting than they actually were, the rising costs of public liability premiums, and various bureaucratic hurdles.

Governments throughout Australia are assisting tourism businesses by simplifying the environmental impact assessment process and by 'opening up' national parks to new activities (e.g. Arup 2012, Hasham 2014, Hilton and O'Loan 2013) and facilities, in an attempt to reduce bureaucratic hassles for tour operators and enhance the ability of our national parks to bring in more income. This has been applauded by many tour operators who, in addition to other problems, are plagued with time-consuming and often expensive applications, and also restricted by the exclusion of many protected areas from certain activities. If approached cautiously, it would indeed be possible to enable more tourist visitation (and income from same) without compromising biodiversity values, and indeed the Minister for National Parks, Recreation, Sport and Racing, has stated that ecotourism is about "environmentally responsible activities which

increased visitor appreciation for unique areas while they were also being fully enjoyed” (Hilton and O’Loan 2013).

Many conservationists, ecologists and ecotour operators however fear that the speed at which legislation is being changed to allow new activities in protected areas, with insufficient preliminary research or setting up of comprehensive monitoring projects, spells danger to many of our species and ecosystems (e.g. Richie et al., 2013). When Wildlife Tourism Australia Inc. (WTA) representatives asked to speak with the Queensland Minister for Tourism (who was actively promoting the ‘opening up’ of parks for ecotourism) about sustainability of tourism in protected areas, they were advised that the Minister dealt with tourism only, and sustainability was an issue that should be discussed with the Minister for National Parks or the Minister for the Environment. Even when it was pointed out that WTA represented tourism operators across Australia, and as such wanted tourism in national parks, and supported the development of innovative ideas for this, but also wanted to ensure environmental sustainability, the answer was unchanged: sustainability was not part of the portfolio of the Minister for Tourism, so no such meeting could be arranged. This begs the question of whether the Minister (and certain other politicians) understand sustainability to be an essential part of ecotourism. Ecotourism Australia (<https://www.ecotourism.org.au/>), which has been a world leader in accreditation of ecotourism operators, defines ecotourism as “ecologically sustainable tourism with a primary focus on experiencing natural areas that fosters environmental and cultural understanding, appreciation and conservation.” The International Ecotourism Society defines it as “responsible travel to natural areas that conserves the environment and improves the well-being of local people.” (<https://www.ecotourism.org/what-is-ecotourism>) which, while not using the term ‘sustainable’ certainly implies its status as a vital component of the industry.

Please note this paper is not intended as political commentary. I have no expertise in politics or economics, and I have never been aligned with any political party. My experience however as a research ecologist, environmental consultant, tour operator and chair of a national tourism organisation (WTA) have combined to cause some concern for the future of biodiversity in Australia with recent political and other events. Please note also that I would not normally use public media as references, but due to the recency of events referred to, many of the references herein are not from research journals, as there has not yet been sufficient time for researchers to study their effects.

POTENTIAL THREATS TO BIODIVERSITY

Australia is regarded as one of the world’s most megadiverse countries (Australian Bureau of Statistics 2010), with 87% of its mammals, 45% of its birds, 93% of its reptiles, 94% of its amphibians, 85% of the inshore fish in southern, temperate-zone waters, and 86% of vascular plants endemic (i.e. found nowhere else). The Great Barrier Reef is the world’s largest coral reef ecosystem, encompassing a high diversity of species and habitats. It is Australia’s responsibility to protect this biodiversity, and since Australia would appear to enjoy one of the world’s strongest economies (International Monetary Fund 2012) we should be in a good position to do so.

According to Hockings et al. (2013) Australia has only 13.5% of its total land area in conservation reserves, which is gradually getting closer to the goal of the Convention on Biological Diversity, which aims at 17%, and to which Australia is a signatory. Queensland includes some of Australia’s richest areas in terms of biodiversity and endemism, notably the wet

tropics in the far north of the state, the brigalow belt of the southern half of the state, the desert uplands of the north, the subtropical rainforests of the southeast corner, and the Great Barrier Reef. Less than 5% of its land however is protected by national parks and less than 7% is in any type of conservation reserve: compared internationally, Queensland's national park coverage is similar to that of the lowest third of countries globally (Hockings et al., 2013). Despite this, five national parks in Queensland have been recently opened up for grazing of cattle during droughts (Tlozek & Arthur, 2013), a situation which perhaps could have been avoided if other grazing areas had been kept free of cattle during good years to provide for the lean times (Perry 2013), and about two million hectares of land designated by a former government as important conservation areas are being opened up for logging (Williams, 2013).

Wildlife in other states and territories are facing new pressures. A system of marine parks declared by a previous government (Duffy, 2012) and making it the largest network of marine parks of any country, is being compromised by allowing fishing in the zones that were to be off-limit for any fishing, to protect biodiversity and fish stocks for the future (e.g. News.com.au 2013). Grazing in national parks is being allowed in some parks in New South Wales (Gerathy and Shields 2012) and Victoria (e.g. Arup 2014). Parts of Kosciuszko National Park (NSW) have been opened for horse-riding, with a monitoring program (Southern Weekly 2014), as have a number of other national parks in southern Queensland and other areas.

Worldwide, there have so far been two instances of de-listing of World Heritage areas, one in Oman when the oryx it was intended to protect were decimated by poachers and the government greatly reduced the size of the sanctuary because of oil prospecting (<http://whc.unesco.org/en/list/654>) and one in Germany when a new bridge compromised the original values (<http://whc.unesco.org/en/news/522>). Now it seems there will be a third de-listing, as the federal government moves to de-list 170,000 ha of Tasmanian forest from World Heritage (Australian Geographic, 2013). Australia also faces the possibility of UNESCO listing the Great Barrier Reef as a World Heritage site in danger, because of plans for greatly extended ship passage, largely for the coal trade, and associated dredging and dumping close to (not on, as has been falsely reported in some media) the reef (BBC, 2014).

Hockings et al. (2013) argue that the expression 'opening up' is misleading when applied to tourism in national parks, as they are already accessible to all visitors, currently totalling 51 million visits from domestic tourists and 7.9 million visits from international tourists every year. Certain activities have been banned, but all may walk the trails and drive the roads through the parks. Of course some areas are not accessible to the disabled, and more could well be made so, but not all need to be. As explorer, author and founder of South Australia's Heyson Trail, Warren Bonython (Fuss, 2012) once pointed out, a good champagne cannot be afforded often, or by everyone, but mixing it all with cheap beer so that everyone can afford it would mean no one can ever have that special experience (I may not have the exact words here – I heard him say it about 40 years ago), but the meaning is there—some peaks should remain isolated and challenging. So should some fragile ecosystems.

The activities to now be permitted in various national parks that traditionally have excluded them include trail-bike riding, horse-riding, zip-lines, shooting and fishing. Some national parks are also being opened up for tenders to provide accommodation within their borders. It is well known that tourism can convey negative impacts to the environment, although also sometimes acting in favour of conservation (Ghulam Rabbany, 2013). Even wildlife tourism, which overlaps broadly with ecotourism and is often run by tour operators genuinely concerned

with wildlife conservation, and as such should be relatively sustainable, can have many negative impacts on biodiversity if operators are not careful or sufficiently knowledgeable (Green and Higginbottom 2000, 2001, Newsome et al., 2004), although again it is also capable of positive effects (Higginbottom et al., 2001).

The proposed changes are not necessarily of concern if baseline studies are conducted and the parks are properly monitored, with associated action triggers that will result in cancelling or minimising activities that cause problems, but how well-regulated and monitored will these new activities and facilities actually be? Horse-riding can be less disturbing to wildlife than tourists walking on foot, but can also cause erosion and the spread of weeds. A previous government outlined a comprehensive program of monitoring for the impact of horse-riding (DERM, 2010), but it is not clear whether the current governments are implementing this. Trail bikes and mountain bikes could also cause erosion, especially in areas of high rainfall. Four wheel drive vehicles and all-terrain vehicles, to be permitted in more areas than previously, including more beaches and dunes, can cause erosion and trampling of burrows of shore invertebrates, with consequences for shorebirds, and other negative effects (Green and Higginbottom 2001). Personal communication with marine biologists has revealed there is no baseline study or program of monitoring effects of all-terrain vehicles on beaches recently opened up for this activity on Moreton Island, and I am not aware of any current monitoring elsewhere. The first zip line to be proposed for a national park (Obi Obi Gorge, Queensland) is being questioned as to whether the noise will affect wildlife: others exist in non-park areas elsewhere in Australia and they may not be a problem, indeed seem relatively benign compared with some activities, but again research would be needed to establish the possible impacts. Protect The Bush Alliance is preparing to conduct a voluntary fauna survey before it commences (PTBA, pers. comm.).

Recreational shooting in national parks has been touted as a way of controlling feral animals, which do indeed present a major threat to our wildlife and are expensive to control, but many fear that native animals will also be shot or disturbed, and that the safety of rangers and visitors could be compromised. The New South Wales government is currently trialling supervised shooting by recreational hunters, in a more controlled fashion than formerly planned after many park users, conservationists and rangers expressed their concerns (Nicholls, 2013)

There has been much else happening in the past couple of years: legislative changes to conservation acts, legislative changes to the purpose of national parks, budget cuts to public servants including national parks staff, laying off of national park rangers, decrease in numbers of categories of protected areas, legislation allowing dispersal and shooting of thousands of pollinating and seed-dispersing fruitbats in rural and residential districts, rapidly-expanding mining exploration and activity (especially for coal seam gas) in natural areas, and many other issues too lengthy to delve into here.

THE NEED FOR RESEARCH, MONITORING AND ACTION TRIGGERS

If biodiversity conservation was well under control throughout the country, if we had sufficient research that we truly understood all ecosystems and the behaviour and ecology of even our most cryptic species, if the general population was well-educated in ecological principles and the diversity of our fauna and flora, if adequate baseline data on species and communities were in place for each national park, if we had enough rangers to observe and enforce regulations, and if comprehensive monitoring systems were set up with action triggers to be activated

whenever signs of trouble arose, we may not have too much to worry about. Instead, many species and ecosystems remain unprotected by national parks and similar reserves, connectivity of habitat is lacking for many species, some ecologists are now saying there are many species we simply cannot save with our limited resources (O'Neill, 2014), some national parks (even those within 200km from major urban centres) seldom see a visit from a ranger, many visitors to parks (both domestic and international) know only of our more famous animals and very little about the ecology and behaviour even of these, and despite much excellent ecological research over the years there is much about our fauna, flora and ecological processes that is not yet well understood by anyone.

As is often said, "extinction is forever." The loss of biodiversity, which national parks play an essential role in slowing down, cannot be reversed, at least not in time scales that matter to us: it would take not decades or centuries or even millennia, but millions of years to return to similar levels, and the actual species lost now would never be making a re-appearance. Abandoning the precautionary principle can cause irreversible change, both in terms of species extinctions and the natural functioning of ecosystems.

As stated by Rodgers and Moore citing Newsome et al.: "Researching impacts requires baseline knowledge of a species such as their life history parameters, habitat requirements, natural movements and social behaviour, overlaid by knowledge of their responses to tourism activities (Newsome et al., 2002)." Newsome et al. (2005) also point out that baseline studies are lacking for many species and that it is frequently difficult to separate the influence of tourism from natural variation.

One potential problem of using scientific research however is the disparity of understanding of the term 'science'. A study by Rodgers and Moore (2004) found scientists to see 'science' as a method, while managers and tourism operators regard it as a body of knowledge. Scientists are also generally looking to conduct research into theoretical questions or applied questions that have a broad relevance, and to be able to replicate studies so they can publish their papers in reputable science journals of the type that facilitate promotions and research grants. There is often a delay of several years between conducting research and the results becoming available in published papers, and much raw data remains unpublished on scientists' shelves or computer files. Conservation managers and tourism planners on the other hand generally need answers specific to their areas, and they often need it to be available within weeks or months rather than years.

While tourism operators and managers tend to regard science as knowledge, the degree of knowledge of the basic ecology of most species is far from ideal, especially for the smaller, rarer and more cryptic creatures that are not obvious to most tourists, tour operators or politicians. Newsome et al. (2005) make a strong case that scientific research should underpin the management plans for any kind of resource use, and also make the important point that inadequate studies can lead to a false conclusion of 'no impact.' Unfortunately time constraints of much short term research do not allow sufficient data to be collected to be confident that statistical analysis of a larger sample would not have picked up a difference, and severe time constraints on environmental impact assessments do not allow for observations in more than one system or for adequate collection of data even in one system. Additionally, continued observations can often bring up surprising complexities to conservation problems (e.g. Stojanovic, 2014), requiring innovative approaches to management.

To have any chance of slowing our loss of biodiversity, we need more research on our wildlife species (including marsupials, bats, other mammals, birds, reptiles, fish and invertebrates), and

communities. One would hope that responsible decision-makers, while opening up many of our most important protected areas for new activities and facilities and simplifying the process of acquiring permits that need environmental assessment, would simultaneously ensure that the necessary scientific inquiry and monitoring programs would be given a boost. However, the outlook for this does not look good. One of the first steps of the new federal government last year was to abolish the portfolio for science, which has existed since 1931, claiming science would be covered by the federal portfolios for industry and education. Australia's peak science research organisation is CSIRO (Commonwealth Science and Industry Organisation), described as one of the world's largest and most diverse scientific, industrial and research organisations, and responsible for the publication of many scholarly books on Australian wildlife and many relevant journals such as "Wildlife Research," "Australian Journal of Zoology," "Australian Journal of Botany" and "Marine and Freshwater Research." It is now facing such heavy government cuts that hundreds of its employees are being dismissed. The abolishing by the federal government of the Climate Council, an independent body established by a previous government to make scientific reports on climate change available to the general public, attracted attention from international science writers last year (Slezak, 2013; Newar, 2013). One of our state premiers stated at a tourism forum in 2013 that we don't need any research before opening up national parks to new activities: we just need to start the activities and then see if it is sustainable. As chair of WTA, I have pointed out to his department that if emus and kangaroos start disappearing we'll notice soon enough, but small creatures such as endangered frogs could be gone before anyone knows they ever occurred there. Perusing some environmental impact assessments, it also appears that many officials do not realise the importance of different techniques or seasonal and weather considerations to effectively investigate the different groups of wildlife that may be affected by a project.

Comprehensive surveys of fauna and research on ecological interactions is admittedly expensive, but there are ways of reducing such expense. Every year there are new postgraduate students looking for research projects, and with a bit of ingenuity research questions can be coupled with the collection of the kind of local data needed as baseline studies, ready for on-going monitoring of impact. Tourism operators who frequently visit national parks are often in an excellent position to collect data themselves, to provide free rides to researchers when there are spare seats in their vehicles (simultaneously adding to the interest value for the tourists) or to join up with a volunteer scheme such as Earthwatch or Conservation Volunteers Australia for tourists who are keen to 'give something back' to the environments they visit by collecting simple data or taking relevant photos to be sent to centralised databases (e.g. <http://www.cwr.org.au/research/humpbackwhales/photo.html>, <http://www.flukerpost.com/>). Wildlife Tourism Australia Inc. has recently launched a website for a Wildlife Research Network, linking tour operations, scientists and tourists (<http://www.wildliferesearchnetwork.org/>) after identifying need for such a network at one of its workshops (Wood and Rumney, 2012).

Although some of the more extreme environmentalists may see faunal research only as a means to finding endangered species and halting all development, this is really not the point. Research may well show that some of the proposed changes will have little or no impact on biodiversity and may in some cases have a positive effect, or where a slight change of plans could make a lot of difference to the impact. It could also show where irreversible effects are likely, where some activities and structures are fully incompatible with biodiversity. Armed with better knowledge, we would be able to say yes, this section of a national park could allow a certain frequency of well-behaved horse-riders and thus allow connectivity between other

non-park tracks offering excellent opportunity for full-day or multi-day trail rides, this section of a large national park could benefit from some environmentally-sound accommodation, but certain other areas would be totally inappropriate for such activity. Some research may point to restrictions rather than all-out bans: horse-riding allowed only in the dry season, outside of nesting season of shy birds, or only with horses kept in weed-free paddocks). A possible example of positive effect would be Currawinya National Park in outback southern Queensland, which currently allows camping with rather inadequate toilet facilities, resulting in many campers simply 'going behind a bush' during the night (personal observation), or staying at accommodation some distance from this very large park and traveling to and from it each day (more use of fossil fuel). There is already a cleared area with an old wool-shed and shearers' quarters which could well be converted to appropriate accommodation, and this is indeed one of the parks where a tender for such has now been called.

OTHER SOLUTIONS FOR THE TOURISM INDUSTRY

Instead of focussing attention on our national parks for new activities, governments and the tourism industry could also focus more on the many opportunities in the 86.5% of our country that is not under any kind of conservation reserve. Many of the large cattle stations (some of them hundreds or even thousands of square kilometres) could offer excellent opportunities for off-road driving and horseback trekking, and receive a welcome supplement to their income by allowing this. Many smaller properties could be ideal venues for bird-watchers and other wildlife-viewers, with farmers and land-owners being paid for the privilege of access by responsible tour guides. The biggest stumbling block to this is the high cost of public liability insurance premiums. For property-owners making their living or a side income from tourism (e.g. with holiday cabins on their farm) this is not such an issue, as they already need such cover, and will often achieve sufficient return on investment. However there is much unrealised potential for tourism activities on private land that would offer some financial reward to the land-owner or lease-holder by less frequent tourist usage, if the premiums were reduced. On behalf of the members of WTA. I have interviewed several insurance providers and asked whether tour operators could co-insure the land-owners as part of their own premium payments, as they already do for national parks (it is nowadays a requirement for any tour operator taking customers into a national park to co-insure the national parks department for \$20 million). The advice I have received is that this could be possible if operators do not pay for the privilege, but if they do so, the land-owner or lease-holder will be deemed to be in the tourism industry and thus need their own insurance. I have been advised also that governments cannot dictate what insurers are able to charge, but with so many legislative changes happening at present it would seem potentially possible to alter some legislation to enable operators to co-insure such people, and paying them for the privilege would have the added benefits of an incentive to conserve native vegetation, and to help take some of the increasing visitation pressures off our national parks.

While governments are emphasising their assistance to tour operators by cutting 'green tape' and allowing more access to national parks, there are other bureaucratic problems and expenses that impede both small and large businesses in tourism and do not appear to be adequately tackled by governments. One is the lack of consistency and cooperation between licensing bodies in the various states and territories, making it time-consuming, costly and confusing for businesses operating in more than one area to do so legally. As Davies (2012) told the delegates

at a WTA workshop, “We all find it difficult and expensive dealing with government agencies ... However, if it is difficult intrastate it becomes a lot more complex and expensive working interstate. Each state has its own system of licensing transport operators and issuing passenger authorities. Whilst there are federal regulations governing the heavy transport industry these don’t apply to tourism operators.”

Does the appeal of national parks to our domestic and international visitors really depend anyway on opening them up to new kinds of activities? Is this really the only way to achieve more income from our national parks? We need more surveys to find out what current and potential visitors want. Do they really need accommodation within the park, or are they happy to stay in neighbouring accommodation? How many would be interested in long-distance horse-riding or four-wheel cross-country driving on large and scenic cattle stations? How many would be interested in spending more time in or near the parks (and thus contributing more to local economies, by spending on food, petrol, accommodation, souvenirs and other items: see for instance Tisdell and Wilson 2004) if they knew more about the wildlife species that are not currently well promoted, and if innovative methods were used to view the less obvious ones (e.g. closed-circuit television at nests or water-holes, hire of night-vision binoculars)? Most, probably all, international visitors already know about koalas and kangaroos, and many know about platypus and wombats, and are keen to see them. How many of our other unique species would they also be interested in viewing if there was more publicity and minimal-impact ways of seeing them in the wild? How much would the passive enjoyment of nature by domestic and international tourists be impacted by some of the proposed developments in national parks? How much entry fee would domestic and international visitors be prepared to pay if they could be assured this fee was contributing to conservation management?

CONCLUSION

We are already facing potentially major impacts on species and ecosystems from many quarters (climate change, expanding urbanisation and mining activities, invasion of natural ecosystems by feral animals and weeds, and inevitable increases in visitor numbers to national parks). If we are also to introduce new activities into our national parks, which are so essential for biodiversity conservation, we need more research into possible impacts and the development of comprehensive monitoring schemes with triggers to action when problems are detected. We also need to investigate barriers to establishment of quality tourism experiences outside of the parks, and more research into the qualities that a range of tourists (and locals) desire in the national parks they visit, and whether activities that are incompatible with biodiversity conservation could be equally provided for outside of the parks.

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