

From: [Ralf Buckley](#)
To: [Health and Community Services Committee](#)
Subject: Nature Conservation and Other Legislation Amendment Bill (No. 2) 2013, Submission
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Attachments: [Buckley Ecotourism and Conservation Revised.doc](#)

Dear Sirs

Thank you for the invitation to lodge a submission to this Inquiry.

In line with my particular professional field of interest, and my submission to the Inquiry into NCOLA Bill No. 1, my submission is restricted to aspects of commercial ecotourism. I appreciate that the aims of the NCOLA Bill No. 2 are much broader than this.

My submission consists of the attached book chapter, published quite recently, which addresses some of the issues and difficulties in commercial ecotourism operations in public protected areas. The sections headed Politics, Principles and Policies, and Evaluations are the most relevant. This a pre-print version, but the book is now published, and the chapter may be cited as Buckley, R.C. (2013), Ecotourism and conservation. In: R. Ballantyne & J. Packer (eds.), *International Handbook on Ecotourism*, Edward Elgar, Cheltenham UK, pp. 233-244.

Other chapters in this volume may also be of interest to the Committee. Profs Roy Ballantyne and Jan Packer are at the University of Queensland, should you wish to contact them.

With best regards

Yours faithfully

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ECOTOURISM AND CONSERVATION

In: *International Handbook on Ecotourism* (2013), eds. R. Ballantyne & J. Packer, Edward Elgar, Cheltenham UK, pp. 233-244.

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Introduction

The editorial invitation to contribute this chapter also suggested a subtitle: The good, the bad and the ugly. Although I have not adopted this phrase in the title, it does potentially provide a useful conceptual framework, because it throws into stark relief the different perspectives of commercial tourism operators, and landowners and wildlife managers.

At a global scale, most tourism does not involve conservation, and most conservation does not involve tourism. Where they do overlap, there are commonly costs and controversies as well as potential gains (Buckley, 2008). Generally, tour operators want access to land and wildlife which are attractors for their clients, in order to make money for themselves and their shareholders. If they can get such access cheaply, free or subsidised, they can make larger profits, especially if they can gain exclusive or preferential rights which their immediate competitors do not have.

Owners and managers of lands and wildlife, in contrast, need funds and other resources for conservation management. They see tourists, either as individuals or as clients of commercial operators, as one potential source of income. Other income sources include government budget appropriations, donor funding, and payments for ecosystem services such as water supply or carbon sequestration. In contrast to these sources, tourism also brings substantial costs. These include: financial costs for visitor infrastructure and management; legal risks from potential liabilities; social

conflicts between user groups and between tourists and residents; and environmental costs through a range of biophysical impacts.

These factors differ greatly between different types of tourism and land tenure. Most notably, they differ between individual visitors who deal directly with the landowner, and commercial tour clients where the dealings are between landowner and tour operator. They also differ between: public lands allocated for primary production; public lands designated as protected areas; communally or privately owned lands where tourism and conservation are only two of many possible land uses; and private reserves owned directly by the tourism operator.

Conservation

It is generally considered good if tourism can make a net positive contribution to conservation. That is, none of the stakeholders actively oppose this. They do, however, have very different perspectives on whether, when, why and how tourists and/or tourism enterprises may or should have any motivation, responsibility or obligation to make any contribution to conservation; and what they might be entitled to, or able to acquire, in return (Buckley 2009a, 2010a). There is also a great deal of uncertainty in how any such contribution might be measured or accounted for. In particular, there is a distinction between mandatory measures such as parks visitor fees, and voluntary measures such as those taken by some individual tourism enterprises. There is also a distinction between gross and net contributions, with the latter taking into account the impacts of tourism both in reaching a site, and once they arrive.

Most of the research on positive net contributions to conservation has been carried out for private and community lands in developing nations. This is a relatively new but rapidly growing area, in both practice and research. The scale and scope, mechanisms and measures used in accounting for net conservation gains are still under debate and development. Whilst there are indeed cases worldwide where commercial tourism operations make a net positive contribution to conservation of biological diversity and ecosystem services on either private, community or public lands (Buckley, 2010),

these are still very small in scale as yet, constituting only a tiny fraction of the total tourism industry worldwide.

These conservation tourism approaches are ecologically significant and valuable nonetheless, especially for off-reserve conservation of threatened species and ecosystems, and for landscape-scale linkages and connectivity. Some mechanisms are far more significant ecologically than others, depending on scale. Political mechanisms are most far-reaching, especially where tourism provides incentives for governments to protect ecologically valuable areas under threat from other sectors.

There are significant differences between countries and regions, depending on both political and economic factors. In countries with strong economies, stable land tenure systems, and a high proportion of land in private ownership, the most effective mechanism is the establishment of private reserves funded by up-market lodges. In countries with large areas of land held under communal tenure, community partnerships are key. In nations where governments do not fund public protected areas adequately, tourism can provide one substitute source of funding.

Impacts

In broad terms, environmental impacts associated with tourism in conservation areas may be seen as bad, for all parties concerned. None of the stakeholders are actively in favour of impacts. They do, however, have rather different perspectives on whose responsibility it is to minimise impacts, and how this should be done. Though by no means comprehensively studied, this is now becoming a mature field of research, with a well established discipline of recreation ecology to measure and analyse impacts, and a well-established toolkit of management approaches to minimise or control them. In practical terms, most of the research to date on environmental impacts of ecotourism has been carried out for individual visitors in public protected areas (Buckley, 2004, 2009b, 2011, 2012; Liddle, 1997; Mon, Cole, Leung & Marion, 2010; Steve, Pickering & Castley, 2011).

Minimal-impact management is one defining criterion of ecotourism (Buckley, 2009b). In practice, this requires: an understanding of impact mechanisms; management tools and technologies to reduce impacts; and indicators to assess the effectiveness of these approaches. There are commonly very different impacts from different components of ecotourism operations, including the many various types of accommodation, transport and activities.

For ecotourism accommodation, impacts are derived from: construction; water and energy supplies; and waste treatment and disposal. Water supply ranges from creeks and waterholes for backcountry camping, to large-scale supply for upmarket lodges. Similarly, power supplies range from candles and campfires to solar panels, microhydro systems, diesel generators, or mains powerlines. Treatment of human wastes ranges from backcountry burial and carryout systems, composting and pump-out toilets, to a variety of septic tanks and sewage treatment plants, each with its own impacts. Greywater is lower in nutrients than blackwater, but higher in volume, and commonly also contains detergents.

All forms of transport, whether terrestrial, marine or aerial, run the risk of transporting weeds, pathogens and invasive animal species. Most can cause physical damage to soil, vegetation and sometimes wildlife. Motorised transport produces noise and exhausts and contributes to climate change. All these types of impact depend on the type of ecosystem and the intensity as well as the type of transport. Examples include: soil erosion by off-road vehicles; damage to nests and burrows; inadvertent ignition of wildfires; coral damage by anchor chains; and noise and visual disturbance to wildlife.

Research on the environmental impacts of ecotourism and outdoor recreation has been described as 'sparse, crude and clumped' (Buckley, 2004). It is sparse, in the sense that of all the possible combinations of activities, intensities, impacts, ecosystems, species and management regimes, only a very small proportion have been studied. It is clumped, in the sense that particular combinations, such as pedestrian trampling of ground layer vegetation in northern temperate ecosystems, have been studied much more intensively than others. It is crude, in the sense that, with a small number of

notable exceptions, most recreation ecology research has focused on direct, visible and easily quantified impacts, regardless of relative ecological significance.

This is one of the most active subfields in ecotourism research. There have been several recent reviews (Buckley, 2009a, b, 2011; Monz *et al.*, 2010; Steven *et al.*, 2011; Zhon, Deng, Song & Ding, 2011). In 2011 alone, there have been at least a dozen new studies on the ecological impacts of tourists and tourism infrastructure, mainly on birds and mammals (Acevedo-Gutierrez, Acevedo & Boren, 2011; Halfwerk, Holleman, Lessells & Slabbekoorn, 2011; Higham and Shelton, 2011; Huang, Lubarsky, Teng & Blemstein, 2011; Kociolek, Clevenger, St Clair & Proppe, 2011; Lian, Zhang, Cao, Su & Thirgood, 2011; Marechal, Semple, Majolo, Qarro, Heistermann & MacLarnon, 2011; Reed and Merenlander, 2011; Remacha, Perez-Tris & Delgado, 2011; Roux-Fouillet, Wipf and Rixen, 2011; Velando and Munilla, 2011; Wang, Li, Beauchamp & Liang, 2011). Some of these are still relatively crude in approach, but others show increasing ecological sophistication.

In general, impacts depend on the environment, visitation, activities, timing, and management. Environment includes climate, terrain and ecosystem. Visitation includes total number, timing and group size. Activity includes equipment and visitor skills and behaviour. Timing includes season, duration and repetition of activities. Management includes all forms of intervention to influence any of the above.

Impacts may occur at different ecological scales, from individual organisms to entire ecosystems. At the scale of individual organisms, impacts can affect behaviour, physiology, reproduction or survival. At the scale of species populations or subpopulations, impacts can cause increases, decreases or even extinctions. At the scale of biological communities impacts affect multiple species and their interactions. And at ecosystem scale, impacts affect both biotic and abiotic components.

There are opportunities to use recreational disturbances as experimental interventions in order to contribute to the broader research progress in the ecology of: invasive species; fire; plant pollination; animal reproduction; behavioural and physiology; and predation, foraging and energetics. Greater ecological sophistication in this recreation ecology research could include increasing focus on, e.g.,: physiological indicators of

impact; population scale consequences of impacts; indirect impact mechanisms; and diffuse, delayed or evanescent impacts, especially those invisible to the naked eye. Ecological research on impacts could distinguish between those which are: immediate *cf* delayed, self-propagating *cf* self-limited; and one-off *cf* repeated. They could consider a broader range of stress-response relationships, including linear, asymptotic, sigmoidal, inverse-U and abrupt thresholds. They could also consider stress-recovery relationships, incorporating hysteresis effects, multiple disturbances, and the threshold effects of extreme events.

Politics

In addition to good conservation and bad impacts, there is a large grey area of contested political negotiation, some of it certainly far from pretty. Some of this negotiation is within single government agencies. Parks agencies, for example, have to decide internally how to allocate their resources between conservation and recreation management, subject to a range of political pressures. Some is between different government agencies, e.g. in determining: government budget allocations to protected area management agencies; the proportions of their budgets which they are required to raise through tourism revenue; and the restrictions on how they may raise and spend any such revenues. At least part of this political negotiation, however, is between parks agencies aiming for conservation and protection, and tourism developers aiming for commercial opportunities and profit.

In developed nations, parks agencies employ a range of approaches to permit private commercial tourism enterprises to operate inside public protected areas, under various conditions. In the USA these are known as concessions. Elsewhere they are referred to as permits, licences or leases, depending on the precise operations and legal mechanisms. In some countries, such systems have been operating for many decades or longer, but they still remain relatively little studied. The details of parks agency budgets, of legal and commercial arrangements with licensees and concessionaires, and outcomes for either conservation or visitor management, are not often publicly available.

Government tourism portfolios, tourism industry associations, and various recreational groups lobby continually for parks to provide more access and more infrastructure, even though this always has a cost for conservation. In some countries, individual tourism developers and other tourism industry advocates also use a range of political and legal tactics to gain private development rights inside public protected areas. Most of these approaches use the terminology of partnerships, but their proponents give little more than lip service either to conservation contributions or to impact minimisation.

The politics of tourism in and around public national parks and community conservation areas has been addressed extensively, but much of this writing is either selective and uncritical or is itself political in intent. For many decades, tourism advocates and industry associations have engaged in a variety of political marketing campaigns, intended to gain preferential access to public protected areas in ways which are not available to other industries or individual citizens. This is generally contrary to the primary purpose and function of protected areas in conserving biological diversity and ecosystem services. It is commonly also contrary to the provisions of their establishing legislation, which in most jurisdictions provides for conservation and individual recreation, with no mention of commercial tourism.

This does not necessarily imply that commercial tourism has no place in public protected areas; only that it has no right to demand such a place, since the management of these areas should be solely at the discretion of parks agencies. These political campaigns, however, have led some researchers to publish interviews with tour operators reporting their perspectives on park management, without considering whether these perspectives are relevant. One does not, for example, see published interviews reporting park ranger perspectives on day-to-day management of tourism corporations, which would be equally (il)logical. These academic publications, however, are then used as political ammunition in continuing campaigns for commercial access.

Protected area management agencies (PAMAs) and commercial tour operators (CTOs) do not have the same goals for tourism in parks. Contrary to public rhetoric, their dealings with each other should be seen as trades, not partnerships. Each wants

something from the other, and is offering something different in return. In general, CTOs want: access; development and/or operating rights; exclusivity and preferential treatment; discounted *per capita* fees where applicable; maximum subsidisation through access to publicly owned natural resources and publicly funded visitor infrastructure; and the lowest possible lease, permit fees or other payments for these privileges. PAMAs want to provide enjoyable and socially equitable opportunities for visitors to appreciate nature and biodiversity, including a limited set of low-impact outdoor recreation activities. They also want funds for operational conservation management, and for construction and maintenance of visitor infrastructure.

CTOs may see parks as portfolios of commercial business opportunities, but PAMAs see themselves as managing and providing public goods. Advocates of increased commercial tourism in protected areas argue that because CTOs are used to operating in a business environment, they can do so more profitably than parks agencies. Such profits, however, accrue to the CTO, not to the PAMA. Parks agencies could indeed raise a great deal more revenue from tourism if they were to construct portfolios of commercial opportunities and extract the maximum rental for each of them. The reason they do not do so is that such approaches create social inequities and environmental impacts, which conflict with their primary management goals and legislative mandates.

Parks agencies see private-sector permittees and concessionaires not so much as a source of revenue, but as a low-cost option to outsource some of their obligations or visitor demands. Examples include: the maintenance of historic and heritage buildings, by converting them to tourist facilities; onsite outlets for food and beverages in parks remote from urban infrastructure; provision of public transport inside parks so as to reduce use and congestion from private vehicles; and in heavily-visited parks, the provision of first-aid and medical facilities. From a business perspective these are commercial opportunities with monopoly rights and captive markets. From the parks agency perspective, they are services which the agency wants to provide to the public at minimum cost to either. Concession contracts are thus more likely to focus on capping charges to individual parks visitors, than on maximising revenue for the parks agency.

There is also a suite of commercial tourism operations inside public protected areas that are not negotiated, but represent historical rights of various types. Common examples include enclaves of private land which were occupied before the park was declared, and long-term legacy leases for commercial infrastructure established at the same time as the park. There are also a few cases where parks agencies have granted permission for private tourism developers and entrepreneurs to build specialist viewing infrastructure inside public protected areas, as a way to finance visitor opportunities which they cannot fund themselves. Examples include permanent pontoons for viewing coral reefs, infrared camera systems for viewing bat colonies, hides for watching birds and other wildlife, and canopy towers and walkways in tall forest ecosystems.

In a few cases, individual national parks in the USA have subcontracted their entire visitor services operations to private corporations, as a single very large concession rather than a set of smaller ones. The policy considerations behind such an approach are not documented publicly, so any analysis is necessarily speculative. The most likely motivation, perhaps, is that a private corporation has greater flexibility than a government agency in terms of employment contracts. For example, this could include, seasonal, shiftwork or casual staff, at rates corresponding to those for the hospitality industry rather than park rangers. For the very heavily-visited icon national parks where these arrangements have been adopted, outsourcing of visitor services could thus create considerable cost savings.

It appears that this strategy was adopted initially through the formation of a special-purpose private company, Xanterra, by former staff of USNPS. Most of the USNPS whole-of-park visitor services concessions are still with Xanterra. There are now one or two, however, which are with two other companies, Aramark and Delaware North. It seems likely that these companies took advantage of regulations requiring open tenders for US government procurement, and underbid Xanterra so as to gain a foothold and future opportunities in the outdoor tourism sector. Delaware North, for example, which is principally an urban hotel corporation, has started a new division which has also purchased private nature tourism businesses in Australia. USNPS, however, has many decades' experience in the management of concession contracts, and whilst it does not seem to receive a very significant financial return

from these arrangements, it does at least seem to retain close control over operational aspects. This does not necessarily apply in other countries.

Principles and Policies

A joint tourism-parks conference held by the Australian Academy of Sciences in 2001 (Buckley, 2002) developed a set of principles to guide the development of individual permits, concessions or other agreements between CTOs and PAMAs. These principles were summarised as follows. Parks are for conservation first, recreation second. Only low-impact recreation should be in parks, and tourism has no special right to parks. Planning for parks and tourism needs a regional ecosystem approach, and commercial partnerships need mutual consent rather than political coercion. Tourism facilities in parks should provide a net benefit for conservation. User fees should reflect all management costs, including conservation impacts. Commercial tour operators should meet all the costs they impose on parks, and should also pay a resource rent. Marketing of tourism in parks should match park management plans, and parks agencies need a range of staff skills to address tourism as well as conservation and recreation.

These principles are based on two premises. Firstly, it is unrealistic to expect that a private profit-making entity would share the same goals as a public authority charged with broad and long-term responsibilities on behalf of an entire nation. Under appropriate conditions, commercial agreements between parks agencies and tour operators can be beneficial to both, but these conditions will not occur automatically. Secondly, commercial tourism operations in parks are different from individual recreation, even if the physical activities are identical, because they use parks principally for private profit rather than social welfare. Three differences are particularly important (Buckley, 2002): legal obligations and liabilities; duties to the general public; and political power.

The principles recognised that many people prefer packaged tours rather than self-guided activities. They note that conflicts can occur between conservation, public recreation and commercial tourism in national parks, and that commercial tours can

use private land or other public lands. Many forms of outdoor recreation produce relatively high impacts on the natural environment and other people, and only low-impact activities are consistent with the primary conservation goals of protected areas.

From a public policy perspective, commercial users of public protected areas should meet the marginal management costs associated with that use. In practice, however, these costs are often difficult to define. For localised effects of waste treatment discharges on water quality, for example, the impacts of different sources can be distinguished without difficulty. For control of weeds or other invasive species, in contrast, or use of road networks by vehicles, it is much more difficult to draw such distinctions. Simple permit systems can go some way towards apportioning costs.

Evaluations

For public protected areas in developed nations, which receive the bulk of their operational funding from central government appropriations, the negative biophysical impacts of ecotourism generally outweigh the positive financial contributions of visitor fees and tour operator licence fees, in the short term. In the longer term, potential economic opportunities associated with park-based tourism may potentially contribute to conservation by reducing political opposition to the declaration of new protected areas. This includes economic opportunities outside as well as inside the parks themselves. This political aspect, however, can also generate some severe negative impacts, by creating opportunities for high impact users to gain access to protected areas. These may include tourism property developers, and tours using livestock or motor vehicles in areas where this is not otherwise permitted.

There certainly seems to be a current trend in many countries, including both more and less wealthy nations, that governments are requiring parks agencies to raise larger proportions of their total revenue from various tourism-related commercial activities. This trend has been driven at least partly by the tourism industry itself, which has lobbied for several decades to gain increased commercial access. It is not, however, likely to yield positive outcomes either for tourism or conservation.

If parks agencies have to rely on revenue from tourism, they will no longer be able to afford to provide commercial opportunities cheaply to the private sector. Instead, they will be forced into competing directly with the off-park tourism industry, so they will not give away concessions to their competitors. In addition, since the parks have the best assets and the largest capital reserves, in any long-term commercial competition they will ultimately win. If tourism industry advocates continue political lobbying to make parks agencies part of the tourism industry rather than a public-good conservation agency, they will ultimately create a giant competitor which will drive them out of business so as to maintain its own profitability.

A parks agency acting principally as a competitive commercial tourism enterprise would no longer permit any other commercial operator inside its gates. It would run all tours itself. It would charge high entrance fees, both to reduce visitor management costs and to discourage competitors in gateway areas. It would build its own accommodation inside the park, competing directly with gateway accommodation; and it would sell integrated holiday packages including transport, entry fees, accommodation and in-park activities. Larger parks could build their own airstrips in the same way as many upmarket private reserves, so that tourists could fly directly to the parks and bypass the urban tourism sector completely. Indeed, if a private tourism operator such as Wilderness Safaris can operate its own airline, there is no reason why a large national parks agency could not do likewise.

In most countries, for parks agencies to operate as commercial tourism entities would involve changes to its establishing legislation, so as to permit a wider range of tourism infrastructure and a much reduced requirement for social equity. Such changes to legislation are already occurring, however, under pressure from the commercial tourism industry itself. Overall, therefore, it is entirely possible that in seeking to create commercial opportunities for itself inside public protected areas, the private-sector tourism industry and its advocates will instead force the parks agencies into taking those opportunities for itself and locking private entrepreneurs out. This would have negative consequences for conservation, for public recreation, and for commercial tourism.

The model outlined above is in fact exactly how many private wildlife reserves already operate. In some developing nations, with Kenya as a prime example, government funding for national parks systems has fallen so severely that they now rely on tourism revenue for over 50% of their total operating budgets. Most of their visitors are international tourists, and the parks are effectively competing directly with private wildlife conservancies. Similar patterns are developing in Namibia, where tourists can choose whether to visit a public national park with its own tourist accommodation, or a communal conservancy with a privately-operated lodge.

In South Africa, Kruger National Park has its own airstrip, its own gateway hotel, its own road network and its own rest camps, as well as a set of small upmarket lodges built by private entrepreneurs on exclusive-access leases within the park. These private lodges do not seem to have been very successful commercially, precisely because they are in competition with long-established luxury lodges on private reserves immediately adjacent to the park. Those reserves, however, are successful in part because their wildlife populations are interconnected with those of the much larger Kruger National Park. The dynamics of this particular case are still unfolding, and the outcomes remain unknown. To date, however, it seems that the parks agency has not gained the additional income it was hoping for.

Somewhat different arrangements in other national parks in South Africa, however, and in other countries such as Botswana and Nepal, do seem to have generated some gains for conservation. Overall, therefore, it seems that international visitors to public national parks in less wealthy developing nations are indeed making a significant contribution to conservation, both financially and politically. Additional evidence for this comes from countries where terrorism, coups or civil unrest have caused sudden downturns in inbound tourism, and poaching of threatened wildlife species has increased in consequence (Buckley, 2010).

As the costs of international air travel increase in future, however, this source of tourism revenue for parks agencies may diminish. At the same time, domestic tourism is increasing enormously and very rapidly in a number of newly wealthy nations, notably the so-called BRICS countries of Brazil, Russia, India, China and South Africa. This includes an increase in all forms of nature, adventure and wildlife

tourism. It is not clear how this will change future political pressures on parks agencies in the countries concerned. Overall, therefore, the mechanisms and consequences of tourism for conservation in existing protected areas are complicated, with the net outcomes dependent on a wide range of larger-scale socioeconomic changes and some very complex local-scale political negotiations.

Outside existing protected areas, the contribution of tourism to conservation is perhaps more generally positive, essentially because the baseline for comparison is different. Inside national parks, the baseline is publicly-funded conservation. Increasing reliance on tourism, with its associated political complexities and biophysical impacts, is a retrograde step for conservation. Outside protected areas, the prior baseline in most areas is primary production, at either subsistence or industrial scale, on a range of private, communal or public land tenures. Converting land from farming or ranching, forestry or fisheries to tourism and conservation generally represents a net gain for the natural environment, with a few exceptions such as high-impact adventure or large-scale accommodation and infrastructure development.

Global conservation currently relies heavily on lands outside as well as inside the public protected area estate. These unprotected areas are experiencing continual attrition. The aim of the Aichi targets under the *Convention on Biological Diversity* is to combat this attrition by adding a further 7% to the 10% of the world's terrestrial surface which is currently included in protected area systems. Most of this increase is likely to be in the lower IUCN protected area categories, and most is likely to be through redesignation of other public lands, and through various forms of conservation agreement on private and communal lands. In most cases, such measures are likely to require funding, either to provide economic incentives for land owners to change land use practices, or to provide financial payments to previous users of public lands in order to achieve critical political support. The latter is necessary in practice because primary producers have commonly enjoyed heavily subsidised access to natural resources in public lands, and are naturally reluctant to forgo private gains in the public interest.

Worldwide, governments and landowners are currently examining potential mechanisms to provide this funding. Tourism is one of these, along with various forms of national or international government funding for conservation stewardship, carbon sequestration or other ecological services. Any new tourism ventures, however, become part of the global tourism industry, subject to the same market pressures as commercial tourism enterprises worldwide. Only some areas of land, irrespective of tenure, have the attractions and access needed to establish tourism businesses with the commercial viability to support conservation.

There are effectively three successive economic barriers to the conversion of currently unprotected lands to tourism and conservation. The first is that primary industries, especially logging, effectively receive large public subsidies for private exploitation of public natural resources, and they use every political means at their disposal to retain this privileged position. The second barrier, once subsidies are removed so that the playing field is levelled, is simply whether a commercial tourism operation can run profitably: that is, whether ecotourism is a commercially viable option for the land concerned. There are many cases where it is, but also many where it is not. And the third barrier is the relative rate of return from various competing land users, depending on the timescale of interest to the landowner. There are a number of cases where ecotourism does indeed generate a higher return than alternative land uses, on a variety of land tenures, but this depends on tourism opportunities. In the public forests of the USA and Australia, tourism generates an order of magnitude higher revenue than logging (Buckley, 2010; Ward, 2003), but this includes high-impact adventure tourism. In the rangelands of southern Africa, wildlife tourism is a more profitable land use than cattle ranching (Castley, 2010). In the rainforests of the Tambopata area of Peru, ecotourism yields more for local communities than logging or subsistence farming (Kirkby *et al.*, 2010).

Conclusions

The links between ecotourism and conservation are rarely all good or bad, ugly or pretty. They are complicated, with outcomes heavily dependent on detailed circumstances. Ecotourism is dependent on conservation, since nature, wildlife and natural scenery are key components of ecotourism products, attractions and activities.

Ecotourism can have both negative and positive impacts on the natural environment, through a variety of direct and indirect social mechanisms (Buckley, 2009a). The balance and the overall outcome depends on what is considered as ecotourism, where it takes place and how it is managed, and also on the timescale and spatial scale over which it is evaluated.

Whether or not ecotourism, as a land use, is good or bad for the natural environment depends on the basis for comparison, and this depends on the practical politics in the countries and areas concerned, and on the scale and characteristics of the tourism enterprises. The tourist village on the South Rim of the Colorado Grand Canyon, for example, certainly has substantial impacts; but these are far less than either uranium mining or hydroelectric dams, both of which were proposed historically as alternative land uses. Low-footprint wildlife lodges have lower impacts than hunting tourism, at least for the target species. Well-managed hunting tourism may have lower impacts than livestock ranching; but for threatened species of high commercial value in the international legal wildlife trade, hunting tourism can provide a cover for export of animal parts. This has occurred recently, for example, in the case of black rhino in southern Africa. In public protected areas in developed nations, any increase in tourism in areas which are currently wilderness represents an impact on conservation, especially if it includes the development of access infrastructure. For heavily-visited areas of heavily-visited parks, however, parks agencies may find advantages in subcontracting visitor services operations to private enterprises. In public forests used for logging, even relatively high-impact tourism such as ski resorts may still represent a net gain for the environment, if a localised high-impact tourist facility can successfully halt logging across a large area. If not, however, then new year-round intensive-use tourist infrastructure will create a net loss for the natural environment, even compared to logging, and especially if it includes retail and residential precincts.

The bottom line is that while ecotourism relies on conservation, conservation cannot rely on ecotourism. Dealing with the commercial tourism industry may be compared to “dancing with a messy monster” (Buckley, 2000). Sometimes harmonious, but sometimes not!

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