

# THRESHOLDS AND STANDARDS FOR TOURISM ENVIRONMENTAL IMPACT ASSESSMENT

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## Introduction

Tourism is a highly heterogeneous industry sector, and different environmental planning tools are applied at different scales and in different jurisdictions. In most countries only certain components of the tourism industry, and particular types of tourism development, are subject to project-scale environmental impact assessment. Precisely because of its diffuse distribution and variable scale, tourism can provide a useful tool to test the effectiveness of EIA systems. Tourism can also illustrate the dilemmas involved in designing EIA systems which are both effective and efficient, in the sense that they require just enough environmental information, commensurate with the scale of each individual proposal, to make well-considered development control decisions. Currently, there are many cases where identical tourism development proposals in adjacent legal jurisdictions would yield very different EIA requirements (Warnken and Buckley 1995, 1996). This is perhaps an indication of how difficult it can be to set thresholds and standards for tourism EIAs.

Tourism development is often characterized as geographically diffuse and this can indeed be the case (Warnken and Buckley 2000). This, however, is not necessarily a major distinction from other industry sectors. The extractive industries sector, for example, includes scattered sand and gravel quarries as well as billion-dollar megamines and oil fields; and the manufacturing sector includes small-scale cabinetmakers and surfboard shapers as well as global car, clothing and appliance suppliers.

Perhaps more significant is that commercial tourism development is closely linked with residential housing, transport infrastructure, and often also with public utilities such as power and water supply, and sewage and other waste treatment systems. In most

regions, these are subject to specialized development control regimes, which operate in parallel with project-scale EIA for primary and secondary industries.

Developments in those sectors also require both worker housing and utilities, but they are not linked to large-scale residential development, and indeed permanent population migration, in the same way as tourism.

In addition, a significant proportion of the tourism industry is concentrated in areas of high conservation value, in and around public national parks and wilderness areas, private nature reserves and other protected areas. Since these areas are allocated principally for conservation, thresholds and criteria for EIA should be more stringent than elsewhere. In some countries, certain other types of industrial development may also be permitted within protected areas. The main examples are mining, oil and gas production, and public infrastructure such as power lines and sometimes transport corridors. These, however, are built despite rather than because of the area's conservation value; and then only if the economic returns are sufficient to fund major mitigation measures.

The issues considered in this chapter apply worldwide but the examples are taken principally from Australia. Australia is a federated nation with three tiers of government. Planning and development control at local scale is carried out principally by local government authorities (LGAs), which have elected Councilors but whose legal powers are delegated from State governments. The State Governments are responsible for regional-scale planning, pollution control, protected areas, and most large-scale public infrastructure. Each State has its own project-scale EIA legislation. The federal government has its own environmental laws, including EIA law, but their application is limited by the Australian Constitution, which grants the Australian Government specific heads of power. The federal government is generally only involved in tourism EIA when one of Australia's 14 World Heritage areas could be affected.

EIA for Different Types of Tourism

Table 1 summarizes some of the issues associated with environmental assessment for tourism development and activities at various scales. At the largest scale, namely tourist towns, there may be no EIA because tourist accommodation, facilities and infrastructure are so completely integrated with those of local residents. On the Gold Coast in Australia, for example, high-rise residential apartment buildings are largely indistinguishable from adjacent high-rise hotels (Buckley and Araujo 1997; Warnken et al. 2003). In addition, there are many building and apartment complexes, both high-rise and low-rise, which are held under strata title and where individual accommodation units may be occupied by their owners, leased by their owners as holiday accommodation, or operated as hotel accommodation by the manager of the complex. In tourist towns, therefore, project-scale EIA is commonly required only for very large-scale development proposals which are not catered for under current urban development control plans. This occurred recently on Australia's Gold Coast, for example, when a large-scale cruise ship terminal was proposed.

At the other extreme, many types of tourism infrastructure and activity are at too small a scale to trigger EIA unless they happen to be in or adjacent to a designated protected area; and sometimes not even then. Such activities may still have significant conservation impacts, and depending on land tenure and legislation they may still be subject to some form of environmental assessment and to environmental conditions in operating permits, but they are rarely subject to project-scale EIA.

Large-scale greenfields tourism developments, commonly involving a mixture of activities, infrastructure and residential accommodation, are indeed generally subject to project-scale EIA which is directly analogous to that for any large industrial development such as a mine or manufacturing facility. EIA is triggered under planning law because for these greenfield sites, a large tourism or resort-residential development represents a major and material change in land use. As with major-project EIA for any sector, the purpose of the procedure is to provide adequate and accurate information on the probable environmental costs of the proposed development. It is then up to government decision makers, generally at national or subsidiary-state rather than local level, to consider these costs in conjunction with the likely economic benefits in order to decide whether or not the project should proceed.

In practice, there appears to be only one systematic study of the technical quality of tourism EIA, carried out for Australia a little over a decade ago (Warnken and Buckley 1998). That study showed that the standard of scientific information provided in tourism EIA at that time was rather uniformly poor. A subsequent comparison of EIA documents specifically for ski resorts in Australia and the USA (Buckley et al. 2000) found that ski-resort EIA documents from the USA, principally Colorado, were more detailed than those from Australia. The US documents, however, were all for more recent developments or extensions, whereas the Australian ones were older. Hence it was not possible to determine whether the difference is due to the date or the country. EIA legislation in the two countries is very similar; and in both countries, the ski resorts are in or adjacent to areas otherwise set aside for conservation.

In some cases and some countries, major greenfields tourism developments have escaped EIA entirely through special enabling legislation which exempts them from some or all of the state or country's planning and pollution control laws. This approach was adopted some decades ago for large coastal tourism developments in both east-coast and west-coast Australia, for example (Buckley, 1979). Currently it is much less likely, because of potential political repercussions; but by no means impossible.

The remaining categories of tourism development listed in Table 1 illustrate two issues which are particular to the tourism industry. These are considered in turn in the following sections.

### Holiday Housing Clusters

When a single proponent seeks planning approval for a major resort-residential development, the thresholds and standards for EIA in any given jurisdiction are relatively straightforward. Certainly, there may be significant differences between different jurisdictions. Warnken and Buckley (1996), for example, comparing two neighboring Australian States, found that tourism developments were much more likely to trigger State-level EIA in New South Wales than in Queensland. Because of a third-party right of appeal in the NSW legislation, and a specialized Land and

Environment Court, issues such as, e.g., the scale of expansion of an existing development which would trigger a new EIA had been established through litigation.

If a residential area of corresponding overall scale is constructed piecemeal, however, through a series of independent applications for individual holiday houses, then State-level EIA is very unlikely to be triggered. Roads, power, water supplies, sewage and garbage collection services are built and operated by government agencies, whether local or State, and brought to the boundary of each individual block. Such areas, whether used for holiday homes or amenity migration, commonly start out rather sparsely settled, with individual generators or gas supplies, rainwater tanks or dams, and septic tanks for sewage treatment. Only the areas immediately surrounding each individual house are likely to be cleared.

As such areas become more popular, however, and residential density increases whether through subdivision, multiple occupancy or other mechanisms, cumulative environmental impacts can become highly significant. Habitats once of significant conservation value become heavily fragmented through access roads; largely cleared for houses, yards, fire breaks and/or gardens; broken up by fences; and increasingly invaded by weeds brought in on vehicles or as garden escapes. Native wildlife are decimated by road kill and/or attacks from pet dogs or cats, disturbed by noise and light, and indirectly affected by changes in food supplies, competitive interactions, etc. In areas with skeletal soils overlying shallow bedrock, a proliferation of septic tanks can soon lead to groundwater pollution, with associated impacts on downslope watercourses. This issue has been raised, for example, in relation to residential development on a plateau in the hinterland and watershed of Australia's Gold Coast.

Project-scale EIA would not be an efficient tool to address such cumulative impacts (Buckley 1997). The marginal impacts of each new house are limited, and it would probably not be either feasible or equitable for each new development application to consider the cumulative impacts of all the houses which have already been built. Environmental planning in such circumstances is the province of the relevant local, or occasionally State government authority. Such planning processes can often be highly contentious. Existing residents who have bought property for its amenity value are

likely to oppose continuing development, whereas those who have bought property as an investment are likely to be in favour of it.

Attempts to distinguish in legal terms between permanent residential housing and tourist accommodation are fraught with difficulty. There are so many different designs to which houses can be built; so many different combinations of housemates either related or not; and so many different reasons and patterns by which people may need or want to move away temporarily from their principal residence, and allow or invite others to live there during the periods concerned. There has recently been extensive controversy in Byron Bay in northern NSW, Australia for example, over the practice of holiday letting, where residents move out of their houses during peak holiday periods and rent them out at high prices to visiting holidaymakers. Neighbors complain that this leads to excessive noise disturbance from late-night partying by holiday revellers. This could well be true; but trying to ban holiday letting will not be a workable solution.

At a larger scale, the social divisions and conflicts which can occur when a rural farming area becomes popular for holiday homes and later for amenity migrants have been explored in some detail for areas such as Greater Yellowstone in the USA (Johnson et al. 2003, 2004) and elsewhere (Moss 2006). Amenity migration is not tourism, but it is closely related. Indeed, in many areas tourism can be seen as a transitional economy between the production of agricultural commodities, and the production of creative knowledge. To apply project-scale EIA to such a gradual social and land-use change is clearly problematical.

### Tourism and Protected Areas

One particularly critical and contentious issue for tourism development in many countries is its relationship with the conservation estate. Different protected areas have been established historically with different goals, even in the same jurisdiction. For the majority of parks and similar areas worldwide, however, recreation is seen either as core function equal to conservation; as a legitimate additional use, or as an unavoidable necessity to maintain political support for the protected area estate. Conflicts between recreation and conservation in public protected areas, and indeed between different

forms of recreation, have a very long history and are heavily researched (Buckley 2003, 2006; Hendee and Dawson 2002; Eagles and McCool 2002; Pigram and Jenkins 2006).

Commercial tourism in and around protected areas ranges greatly in scale. At one extreme are small-scale commercial tours, where people pay guides to equip and assist them in carrying out the same kinds of recreational activities, at similar scales, as are carried out by individual independent visitors to the park. Such small-scale tours are different in a legal sense from independent visitors, and commonly require permits from the protected area management agency (PAMA), but from an environmental perspective they can be managed in the same way as other visitor activities. These are the types of tourism listed in the lowest row of Table 1.

Commercial tourism in and around protected areas, however, is by no means limited to these low-key guided activities. The PAMAs themselves build a wide range of visitor management infrastructure, and since a large proportion of park visitors are tourists rather than local residents, this infrastructure is itself part of the tourism industry. Many PAMAs also have a routine system where they grant concessions to private individuals or corporations to operate particular activities or facilities within public protected areas. These facilities may be built and owned by the PAMA, but leased to a concessionaire to operate, as in the case of campgrounds in many US national parks. Alternatively, they may be funded and built in part or in whole by the concessionaire, as in the case of the visitors' centre and glacier bus terminal in Jasper National Park, Canada (Buckley 2004).

These are large-scale tourism facilities which are built inside a protected area because it is the protected area which provides the primary tourism attraction. Environmental impact assessment for such facilities therefore needs to be triggered at a lower threshold, and evaluated with a different criterion, than EIA for corresponding projects on private land outside the public protected area estate. Tourist infrastructure inside parks is there to help the parks agencies manage visitors (Buckley 2002a). From a commercial perspective, clearly the concessionaire will not be interested in such an opportunity unless it is profitable. From a public policy perspective, however, the key function of the public protected area estate is to contribute to global conservation of

biodiversity, ecosystem function, and clean air and water. This is a far more significant role than contributing to regional economies, for example.

For project EIA on private land, the usual criterion for governments to assess the proponent's proposal is to balance predicted environmental costs against potential economic gains at a local or regional level. This is also the criterion used for large-scale developments which are unavoidably located within protected areas, such as mining or oil production. Whether or not such developments are permitted within parks differs from country to country, and indeed from government to government within the same country, but some overriding national interest must generally be invoked before permission for any such development is ultimately granted. Only major precious-metal mines or oil and gas facilities, for example, would commonly be considered, not quarries or coalmines. In Australia's Great Barrier Reef Marine Park, oil exploration has not been permitted by governments of any political colour. In the Arctic National Wildlife Reserve in Alaska, USA, proposals by the Bush administration to permit oil exploration proved extremely controversial.

Similar considerations apply for infrastructure corridors. Electricity corporations, both public and private, do quite often propose high-voltage transmission lines across national parks, because for them it is much cheaper than going through private land. Only rarely, however, are such developments permitted, and then under much more stringent environmental conditions than would be required in other land tenures. In addition, development proposals within protected areas are generally subject to much more intensive EIA than for those on other public or private land, with strong public involvement at all stages, and a much higher likelihood of top-tier approaches such as judicial or parliamentary commissions of inquiry, yielding information of much higher technical quality (Buckley 1979).

All of the above applies equally for large-scale tourism development proposals within or immediately adjacent to public protected areas. That is, they would generally be subject to more stringent evaluation both in terms of triggering threshold and technical quality, than if they were proposed on private land. There are two additional considerations, however, which are specific to tourism. The first is that the tourism

sectors, and particularly government tourism agencies, often argue that tourism deserves special privileges in relation to the use of public protected areas. This argument is illogical and incorrect, but nonetheless reappears frequently. It takes various forms (Buckley 2003). At the crudest level, it is sometimes suggested that since historically, governments allocated large areas of land for other industry sectors such as forestry and agriculture, tourism deserves a corresponding allocation and the only land left is the national parks. Slightly more sophisticated is the argument that many public protected areas, including World Heritage sites, were established specifically for recreation as well as conservation. This is indeed correct, but it refers to private individual recreation, and does not confer any particular rights for commercial tourism development. Most recently this argument has reappeared in a third form, using the terminology of partnerships (Buckley 2002b, 2004). The critical issue is that protected areas are there for public good, not private profit. From the policy perspective, commercial tourism in protected areas should be managed for public good, through contributing either to recreational opportunities, to visitor management, or to financial support for conservation (Buckley 2002a). That is, the critical criterion for evaluating development proposals in protected areas is quite distinct from the criterion used to evaluate a corresponding proposal on other land tenures.

In addition, it is enormously more difficult and expensive to restore pristine native ecosystems than it is to restore anthropogenic agricultural or other primary-industries landscapes. If impacts in protected areas reduce populations of particular species below minimum viable population size, restoration may be impossible irrespective of expenditure. Therefore, the threshold minimum scale of development for which EIA is required within a protected area should be significantly smaller than for other land tenures, and in practice this is indeed the case.

Some examples of formal EIA carried out for tourism development projects within or immediately adjacent to public protected areas in Queensland, Australia, are summarized in Table 2. For the larger resort-residential developments at the upper end of the scale, project EIA would probably have been required irrespective of land tenure. The same probably applies for the two cableways. The relatively small-scale residential development at O'Reilly's, however, would not have required project EIA except that it

is in an enclave within a World Heritage area. Similarly, the walking track construction works required under the South-East Queensland Great Walks Project would not have required EIA if they were outside a protected area. Indeed, if they were wholly within a Queensland National Park which was not also World Heritage, they would have been treated as part of routine park maintenance. The Great Walks Project was subject to formal EIA for two reasons. Firstly, because it traversed a World Heritage area for which the federal government also had responsibility and requirements; and secondly, because part of the track, accessed from Queensland, is in fact within a designated wilderness area of New South Wales, and there were concerns about liability as well as conservation.

## Conclusions and Recommendations

Environmental impact assessment for tourism is broadly similar to EIA for any other major industry sector. There are two principal differences. Firstly, there is considerable overlap between tourism and residential development. Residential development has a rather different planning and development-control regime from industrial and major-infrastructure development. The overlap between tourism development and residential development can hence lead to some uncertainty in triggering thresholds for tourism EIA. This issue is particularly critical where cumulative impacts accrue from a series of small residential-style developments, especially where these may be used interchangeably for commercial tourism, holiday homes, or long-term residents. This may apply both for dispersed development in areas of high recreational amenity, such as coastlines and mountains, lakes and rivers; and secondly, in tourist towns where the attractions include casinos, nightclubs and theme parks rather than natural features.

A second distinguishing characteristic of tourism development is that a significant proportion of tourism developments are focused in and around national parks and other protected areas, which provide attractions for scenic and nature-based tourism. The primary purpose of these protected areas is to provide the public good of biodiversity conservation. Since the natural environment in these areas is relatively undisturbed, a relatively small anthropogenic stress can create a relatively large environmental response. In addition, they are specifically selected for their high conservation value,

often including rare and endangered plant and animal species; and it may be difficult or impossible, and commonly very expensive, to reverse any unanticipated impacts. The threshold for triggering EIA is hence lower in protected areas than in other land tenures; the degree of scientific detail required is higher; and the criterion for evaluating development applications is different. The extent to which these distinctions are followed in practice depends on applicable legislation in the country or jurisdiction concerned. In particular, it appears that at least in Australia, World Heritage listing can be a significant triggering factor for tourism EIA.

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Table 1 Types of Tourism Development in an EIA Context

TOURISM TYPES	Categories	Impact Issues	Planning Approach	Triggers and Thresholds	Approval Criteria
Tourist town accommodation	Mountain Rivers Coastal Arid	Tourist accommodation similar to residential, often mixed, load on urban utilities, local ratepayers	Urban planning, LEPs, large-project EIA	Scale of development triggering project EIA; cumulative loss of environment; boundary effects, fragmentation	Criterion = fit with DCP; project EIA rare; low data requirements
Greenfields resort residential	Mountain (eg ski ± golf); coastal (eg marina-based)	Roadworks, sewage treatment, infrastructure corridors, water pollution, habitat clearance, noise, weeds, feral animals	Standard project EIA as for any high impact industrial development	Zoning changes, prior land-use, baseline for EIA	Criterion = balance between economic gains and environmental costs
Cumulative holiday development	Ski dormitory towns, amenity migration areas, lakeshore and residential, coastal strip	Cumulative impacts, groundwater pollution, vegetation clearance, weeds, pets, ferals	Planning, zoning, REA/LEP, LGA DAs	Cumulative-impact trigger for project EIA, incorporation in planning/DA procedure	Criterion = cumulative impact < regional threshold, but poorly defined standards, processes
Single-activity infrastructure, private	Lodges, boat docks, cableways, equestrian and off-road areas, airstrips	Access, impacts (as above) on neighbouring land areas	Project EIA or none	Triggers depend on zoning; synergistic impacts	Criterion = little or no impact on neighbours. Small-scale low-tier EA as part of DA.
Infrastructure in parks, publicly-owned	Roads, tracks, lookouts, boardwalks,	Secondary impacts, visitor management	Part of parks agency operations	Less scrutiny than for private developments	Criterion = reduce <i>net</i> impact on conservation: EIA tests if impact of

<b>TOURISM TYPES</b>	<b>Categories</b>	<b>Impact Issues</b>	<b>Planning Approach</b>	<b>Triggers and Thresholds</b>	<b>Approval Criteria</b>
	shelters, toilets, visitor centres				infrastructure < impact of visitors without infrastructure
Private or concessionaire infrastructure in or near parks	Lodges, huts, camps, buses, snowcats, ski areas, boat moorings, pontoons, climbing anchors, shops	Impacts on park and buffer zones; enclaves; management; tenure	Project EIA with more stringent evaluation	Special conditions, responsibilities; lower thresholds for EIA in parks	Criterion = no net impact on park. Difficulties in legal application of criterion outside park boundary
Private or concessionaire activity in public parks	ORVs, bikes, horses, snowmobiles, boats; guided hike, ride, climb, abseil	Increased visitor numbers, high-impact activities, net increase in impact on parks	Permitting by parks agency, may involve limited EA	EIA rare, but permit conditions can cover activity, site management	Criterion = activity permitted has no greater impact than aggregate impacts of existing individual visitors

DA, development approval. DCP, development control plan. EA, environmental assessment (general process). EIA, environmental impact assessment (legislated procedure). LEP, local environmental plan. LGA, local government authority. REA, regional environmental assessment.

Table 2. Queensland Tourism Developments In or Near Protected Areas and Subject to EIA

Development	Features	Protected Area	Relative Location	EIS?	Built?	Special Circumstances
Hinchinbrook Harbour	Resort-residential and marina	Great Barrier Reef WHA, Queensland Wet Tropics WHA	Adjacent to both	Yes	Yes	In narrow corridor between two World Heritage Areas
Kingfisher Bay	Resort-residential and ferry	Fraser I./Great Sandy WHA	Enclave	Yes	Yes	Stringent environmental conditions
Couran Cove	Resort-residential, ferry and marina	Stradbroke I. NP	Enclave	Yes	Yes	Harbour already excavated decades ago
Skyrail Cableway	Cableway and three visitor centres	Queensland Wet Tropics WHA	Within	Yes	Yes	Part of package to convert logging to conservation
Naturelink Cableway	Proposed cableway	Springbrook NP, CERRA* WHA	Within	Yes	No	Critical differences from Skyrail, higher social and environmental costs
O'Reilly's Mountain Bowers	Residential addition to existing lodge	Lamington NP, CERRA* WHA	Enclave	Yes	Yes+	Enclave pre-dates park; WHA triggered EIA
SE Qld Great Walk	Walking track extensions and upgrade	Lamington and Border Ranges NP, CERRA* WHA	Within	Yes	Yes+	WHA triggered EIA; several endangered frog species at risk

\*Central Eastern Rainforest Reserves Australia. +Approved and under construction, 2006. NP, National Park; WHA, World Heritage Area