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Economic Benefits, Conservation and Wildlife Tourism

by

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Economic Benefits, Conservation and Wildlife Tourism[1]

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Clem Tisdell[2]

June 2012

[1] Based on a keynote presentation by the author to the Wildlife Tourism Australia's 3rd National Workshop, "Using Wildlife for Tourism: Opportunities, Threats, Responsibilities" held at Currumbin Wildlife Sanctuary, Gold Coast, 16-18 May, 2012. A copy of the PowerPoint slides used for this presentation are appended. I am grateful to Chris Fleming for bringing some relevant data to my attention.

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The *Economics, Environment and Ecology* set of working papers addresses issues involving environmental and ecological economics. It was preceded by a similar set of papers on *Biodiversity Conservation* and for a time, there was also a parallel series on *Animal Health Economics*, both of which were related to projects funded by ACIAR, the Australian Centre for International Agricultural Research. Working papers in *Economics, Environment and Ecology* are produced in the School of Economics at The University of Queensland and since 2011, have become associated with the Risk and Sustainable Management Group in this school.

Production of the *Economics Ecology and Environment* series and two additional sets were initiated by Professor Clem Tisdell. The other two sets are *Economic Theory, Applications and Issues* and *Social Economics, Policy and Development*. A full list of all papers in each set can be accessed at the following website: http://www.uq.edu.au/economics/PDF/staff/Clem_Tisdell_WorkingPapers.pdf

For further information about the above, contact Clem Tisdell, Email: c.tisdell@economics.uq.edu.au

In addition, the following working papers are produced with the Risk and Sustainable Management Group and are available at the website indicated. *Murray-Darling Basin Program, Risk and Uncertainty Program, Australian Public Policy Program, Climate Change Program* :http://www.uq.edu.au/rsmg/working-papers-rsmg

For further information about these papers, contact Professor John Quiggin, Email: j.quiggin@uq.edu.au

Economic Benefits, Conservation and Wildlife Tourism

ABSTRACT

Different economic methods are being used to estimate the economic benefits generated by nature (wildlife) tourism. The most prominent of these are economic valuation analysis and economic impact analysis. These methods often provide divergent and conflicting estimates of the economic benefits obtained from wildlife tourism, as is demonstrated in this article by the use of a microeconomic model. Tourism Research Australia has estimated the economic benefits to Australia of nature tourism based on levels of first round expenditure generated by nature tourists in Australia. This is a form of economic impact analysis. These estimates are summarised and it is argued that they exaggerate the level of economic benefits generated by nature tourism. The economic impact of nature tourism can be important at the local or regional level. A way is suggested of measuring these impacts accurately. The conservation consequences of the economic benefits from wildlife tourism are discussed taking into account both their direct and indirect economic impacts. Whether or not increased economic benefits from wildlife tourism contribute to nature conservation depends on several specified circumstances. In conclusion, it is emphasised that organisations and enterprises in the wildlife tourism industry are diverse. Sources of their diversity are identified and the types of economic challenges facing those within the wildlife tourism industry are outlined.

Keywords: Australia, conservation, economic evaluation, economic impact analysis, economic valuation, tourism industry, wildlife tourism.

1. Introduction

Wildlife tourism is often claimed to generate massive economic benefits and to contribute significantly to nature conservation, thereby supporting biodiversity conservation. However estimates of the amounts of economic benefit generated by wildlife tourism vary greatly depending on the way in which economic benefits are measured. Tourism Research Australia (2010) has estimated that annual economic benefit to Australia from nature tourism to be over $A30 billion annually. This figure is based on the total expenditure attributed to nature

tourists. This is a very large sum, indeed. It is suggested here that this figure substantially over estimates the expenditure which can reasonably be attributed to nature tourism.

In this presentation, some commonly used ways of measuring the economic benefit from nature tourism are discussed and the size of its economic impact is considered. This is followed by an assessment of whether wildlife tourism does help to conserve biodiversity. Then attention is brought to extent of business diversity in the wildlife industry and to the economic challenges which it faces, especially in Australia. It is important to consider the extent to which the economic benefits from wildlife tourism contribute to wildlife conservation and consider how much of the economic benefits attributed to wildlife tourism are obtained by those in the front line of wildlife tourism and conservation.

2. Economic Benefits from Wildlife Tourism

The economic value of the stock of wildlife is enhanced when it can be sustainably used for tourism and depending on the circumstances, this increased economic benefit can be a powerful force for the conservation of nature. However, whether or not this extra benefit supports nature conservation depends on several factors. These include how large it is, how it is distributed between the stakeholders, the nature of property rights in wildlife and associated governance. For example, if those directly able to influence the survival of wildlife obtain little economic benefits from tourism dependent on its conservation, they have little economic incentive to conserve it. Therefore, even if the tourism chain dependent on the wildlife generates a large amount of economic benefit, the wildlife resource on which it depends may disappear. That raises the question of how the economic benefit of wildlife tourism should be measured.

Different economic methods used to estimate the economic benefit from nature tourism

Basically, two different approaches to measuring the economic benefit of wildlife tourism can be found in the economic literature (see for example, Tisdell, 2006). These are:

- Measures of its net economic value based on principles developed in the theory of welfare economic (economic valuation analysis or social cost-benefit analysis).
- Measures of its economic impacts arising from the expenditure it generates (economic impact analysis).

Economic impact analysis focuses on how much tourists actually pay for their experience rather than its net economic value or worth to them. It considers the consequences of wildlife tourism for economic variables such as the level of expenditure, income and employment. Most adopters of this method assume that when these variables increase there is an economic benefit.

On the other hand, economic valuation analysis adopts a different approach to assessing the (net) economic benefits of tourism. Two aspects need to be considered in this valuation, namely demand and supply considerations. On the demand side, the economic surplus which wildlife tourists obtain from their touristic experience is taken to be a measure of their net economic benefits. It is equal to their valuation of this experience (often measured by their willingness to pay for it) and their costs of engaging in it. The travel cost method uses this approach in order to determine the recreational value of an outdoor attraction.

On the supply side, the producers' economic surplus is sometimes used to determine the economic benefit to them of catering for an economic activity. It is equal to their net returns from catering for this activity less the next best alternative level of returns which they can earn by using their resources for alternative purposes.

Consider a concrete example. A decision must be made about whether to set aside a parcel of land for a national park (which can be used for nature tourism) or to make it available for grazing livestock. The surplus of visitors to the proposed national park is estimated to be $20m per year and the cost of managing the park is predicted to be $1m. Therefore, the net economic benefit from using this land area for this purpose is $19m per year. The net return from using the land for grazing livestock is expected to be $12m per year. Therefore, using the economic valuation approach, allocating the land as a national park and making it available for tourism gives the highest net economic benefit.

This however, assumes that the benefits obtained by all tourists should count equally. If 80 per cent of the visitors to the national park are likely to be foreign tourists and it is considered that their benefits should not count, then the net economic benefit from the tourist alternative may well be less than for the grazing alternative.

On the other hand, if economic impact analysis were to be relied on to decide between the alternative land uses, differences in the total expenditure generated by the alternative uses would need to be considered. If the economic impacts on the local region are the desideratum for land use, then a decision on whether to use the available land for tourism (and conservation) or for grazing would hinge on which generated the highest level of expenditure, income and employment locally. In some cases, this might be the use of the land for grazing even though grazing might not yield the highest economic benefit when benefit is calculated using the valuation method outlined above. However, practitioners of economic impact analysis rarely provide information about such alternatives – they usually focus on just specifying the economic impacts of one possible activity.

Estimating the net economic value of wildlife tourism can be costly and difficult. This is one reason why this approach is less frequently applied than economic impact analysis in policy decisions. Economic valuation analysis (cost-benefit analysis) is usually only used to measure the amount of economic benefit obtained from wildlife as a tourism attraction at a particular site. Sometimes only the net benefit obtained by visiting tourists is estimated, that is the demand side of the valuation process. This was done for example, in considering the economic benefits form turtle-based ecotourism at Mon Repos in Queensland (Tisdell and Wilson, 2002) and that of flamingo-based tourism at a lake in Kenya (Navrud and Mungatana, 1994).

Economic impact analyses are usually less costly to apply and are more common than economic valuation analysis. Their geographical coverage can be at the local, regional or national levels, or even wider. Most government estimates of the economic benefit of tourism are based on this approach.[1]

The monetary economic benefits estimated by using these different approaches can vary considerably and they can give conflicting estimates of the economic benefits generated by an economic activity. This can be illustrated by a simple application of microeconomic theory. For this purpose, consider Figure 1. There the demand to see nature at a particular site is shown by the line marked AD. The number of visits to the site increases as the cost per visit to the site declines, and for simplicity, the cost per visit is assumed to be the same for all visits. Total expenditure on visits is equal to the cost per visit times the number of visits. For example, when the cost per visit is OG, total expenditure or visiting is equal to OG times X_1,

and the economic surplus of visitors is equivalent to the area of triangle AGJ. The line marked AM is the marginal revenue line corresponding to AB. Therefore, if the cost per visit should rise to OK, the total expenditure of visitors will increase but their economic surplus will fall by an amount equivalent to the area of quadrilateral GJHK. In this case, economic impact analysis indicates that as a result of an increase in visiting costs, the economic benefit from the attraction has risen but economic valuation analysis signals that it has declined. The results conflict.

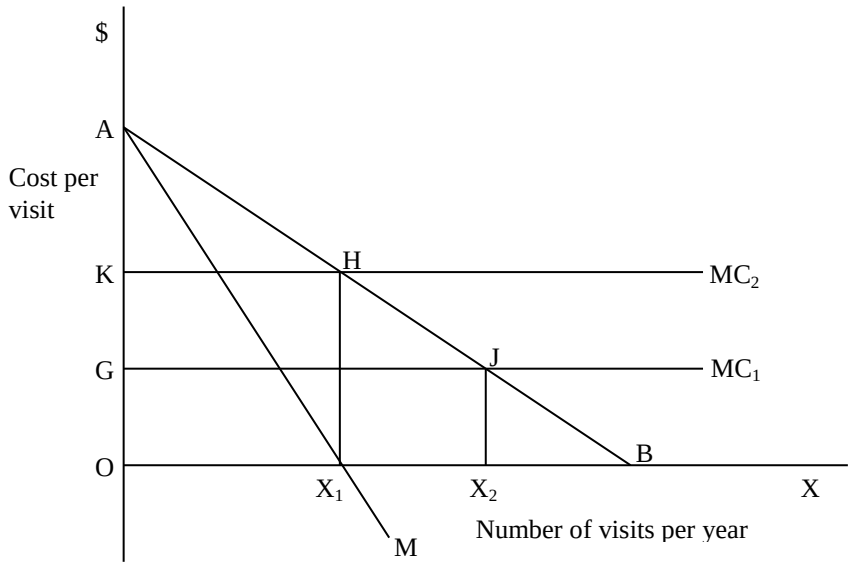

Figure 1: Diagram used to illustrate possible conflict between the implications for economic benefit of economic impact analysis and of economic valuation analysis.

Note that as the cost per visit to the site rises, total expenditure by visitors at first rises but once that cost rises above OK, it declines. Consequently, any increase in the cost per visit of visiting a site decreases both the economic impact of visits to the site as well as the surplus of visitors, if costs rise above OK. On the other hand, if the cost per visit is less than OK, a rise in the per unit cost of visits (if the cost per visit remains less than OK) will increase the economic impact of visits (total expenditure) but reduces the economic surplus obtained by visitors.

A general relationship like that illustrated in Figure 2 prevails. The economic surplus of visitors shown by ABD declines as the cost of a visit increases, everything else being held

constant. The total expenditure of visitors uses at first as the cost per visit increases, reaches a maximum and then declines as indicated by curve OBED. The maximum of this curve corresponds to a situation in which the demand for visits has unitary elasticity or the marginal expenditure by visitors is zero.

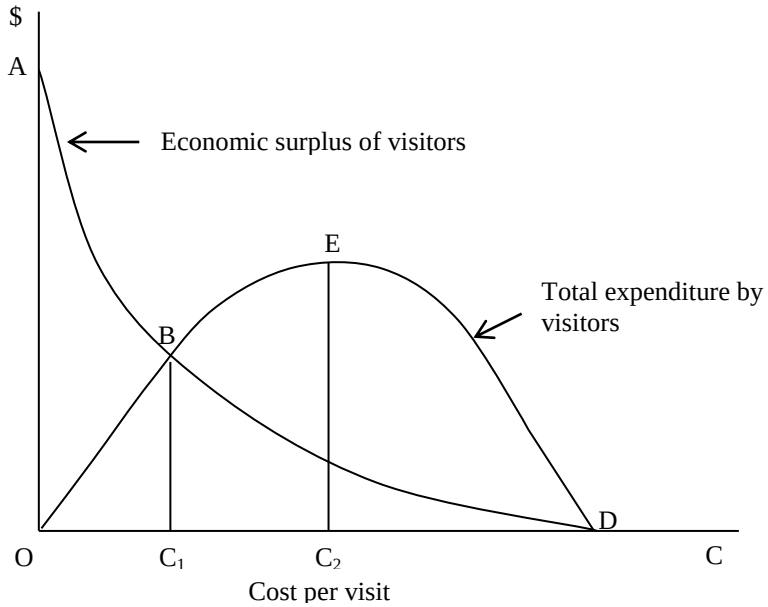

Figure 2 Diagram to illustrate differences between the measurement of economic benefit using impact analysis and that using the economic surplus of visitors.

In Figure 2, it can be seen that when economic surplus is used as a measure of economic benefits, benefits of nature visits vary inversely with the cost per visit. This is not true when total expenditure is used as the measure of economic benefit. In this case, provided that the cost per visit does not exceed C_2, increased cost of a visit increases total expenditure and therefore, according to this measure, economic benefit. When the cost per vist is low ($C < C_1$), economic benefit measured by the size of the economic surplus exceeds that measured by the amount of expenditure generated. However, when costs are high ($C > C_2$), the opposite is the case. Hence, these different measures of economic benefit usually give different results when applied to the same situation.

When the demand curve for visits to a wildlife attraction is constant (as is assumed above), a rise in expenditure on visits reduces the economic surplus of visitors but increases their economic impact. While this rise in expenditure (total costs incurred by visitors) is seen as an economic benefit in economic impact analysis is regarded as a disbenefit in economic valuation analysis or social cost-benefit analysis.

Of course, if (other things are held constant) the demand to visit a wildlife attraction increases (the relevant demand curve shifts upwards), then both the economic surplus of visitors and the amount of expenditure by visitors can normally be expected to increase. This is illustrated in Figure 3. There the demand function for visiting a wildlife attraction is assumed to shift upwards from AD_1 to ED_2 with the cost of each visit remaining constant and equal to OG. Originally, the economic surplus of visitors is equivalent to the area of triangle GBA but increases to an amount equivalent to the area of triangle GFE. Visitors' surplus consequently rises by an amount equivalent to the area of the dotted quadrilateral in Figure 3. Initially, visitors spend an amount equivalent to $OG.X_1$ but this rises to $OG.X_2$, that is by an amount indicated by the hatched rectangle in Figure 3. Thus both the net economic value of the site for wildlife tourism and its economic impact increase. However, the amounts of these increases will usually differ.

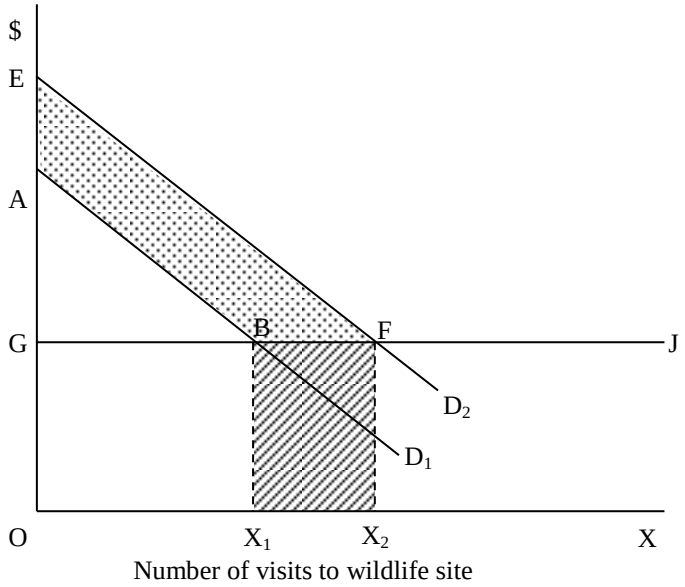

Figure 3: A case in which increased expenditure by wildlife tourists is associated with an increase in their expenditure. Both economic valuation analysis and economic impact analysis indicate in such a case that the economic benefits

from wildlife tourism increase, even though they are measuring different attributes of tourism.

Despite the qualitative correspondence (in the above case) between changes in economic benefits indicated by economic impact analysis and economic valuation methodology, it is clear that they measure quite different economic factors. However, both features can be relevant for policy decisions.

Australian estimates of the economic benefit from wildlife tourism

Tourism Research Australia, TRA, (part of the Department of Resources, Energy and Tourism of the Australian Government) used the expenditure method to estimate the economic benefit to Australia of nature tourism in 2009. Its estimates are given in Table 1

Table 1 Estimates of TRA of the total expenditure generated by nature tourism in Australia in 2009

Type of nature visitors	Total expenditure A$ billion	Percentage of total expenditure
International	19.5	58.56
Domestic overnight	12.6	37.84
Domestic day	1.2	3.60
TOTAL	33.3	100.00

Source: Extracted from Tourism Research Australia (2010) "Snapshots 2009. Nature Tourism in Australia".

These figures indicate that nature visitors spend over a $1,000 annually per Australian. The major amount of that expenditure (nearly 60%) is attributed to international visitors. The composition of this expenditure is highlighted in Figure 3.

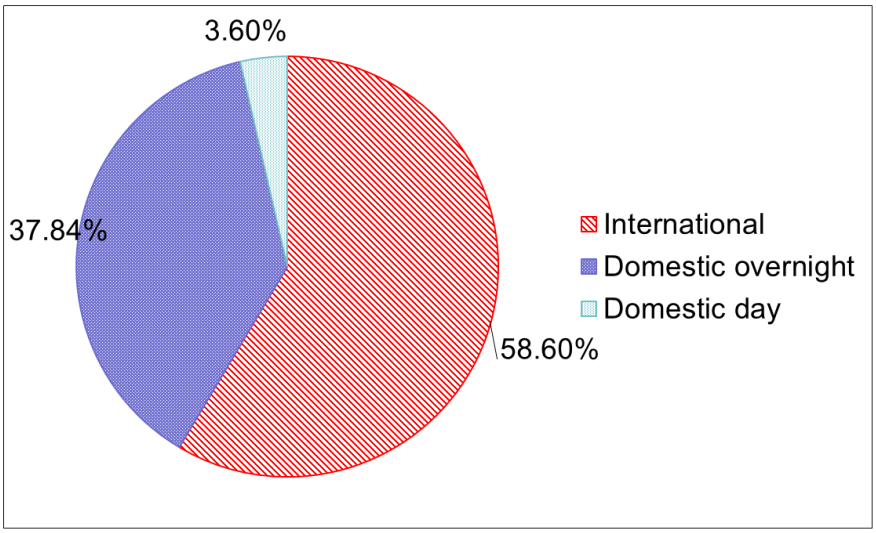

Figure 3 The relative contribution of international and domestic nature visitors to tourism expenditure in Australia in 2009 as estimated by ATR.

Although these expenditure figures are interesting, they exaggerate the expenditure generated by nature tourism in Australia. Furthermore, the revenue received by those in the wildlife tourism industry is much lower than these figures might suggest.

One reason why TRA's estimates exaggerate, expenditure on nature tourism in Australia is that its a test of whether a visitor is a nature visitor is not very discriminating. Anyone who participates in any one of the following activities at least once while travelling in Australia in 2009 was classified as a nature visitor:

- Visit national parks or state parks
- Visit wildlife parks, zoos or aquariums
- Visit botanical or other public gardens
- Bushwalking or rainforest walks
- Whale or dolphin watching (in the ocean)
- Snorkelling
- Scuba diving

All the tour/travel expenditure of these persons while on a trip is attributed to such visitor being a nature visitor.

However, much of their expenditure is not generated by the presence of nature or the possibilities for wildlife tourism. Even the distinction made later in its fact sheet by the ATR between purposeful and incidental nature visitors does not completely overcome the problem. Many visitors would also have visited attractions of cultural interest. It is possible that if a similar estimate was made for their expenditure on cultural tourism, the total of expenditure on nature plus cultural tourism would exceed Australia's total tourism expenditure.

Regional and local economic importance of wildlife tourism

Wildlife tourism is often an important source of income for rural regions, many of which have limited local opportunities. One way to estimate its economic importance to a region is to survey visitors to find out whether they would have visited the region or area in the absence of the wildlife attraction(s). The expenditure in the region by all visitors who state that they would not have visited the region in the absence of its wildlife attraction(s) can be attributed to the presence of those attractions. Secondly, there are those visitors who would have visited the region anyway but may have spent more (e.g. stayed longer) because of its wildlife attraction(s). Their extra expenditure can be attributed to the presence of the region's wildlife. This approach was used by Tisdell and Wilson (2002) to estimate the economic impact on the Bundaberg region of turtle-based ecotourism at Mon Repos beach.

A survey of visitors to Mon Repos Conservation Park (conducted in the turtle season of 1999/2000) found that 40% of respondents would not have visited the Bundaberg region in the absence of sea turtles and 19% would have reduced their length of stay, (Tisdell and Wilson, 2002). A survey of visitors to the O'Reillys/Green Mountains Section of Lamington National Park revealed that in the absence of birds, 30-40% of respondents would not have visited this site (Tisdell and Wilson, 2012, Ch. 6). In a survey of passengers on a tour vessel going to Antarctica (Tisdell and Wilson, 2012, Ch. 5), only 86.5% said that seeing wildlife there was an important influence on their decision to join the cruise. For most, it was stated to be a very important consideration.

3. Conservation Consequences of Wildlife Tourism

General Points

Wildlife tourism can be a positive, neutral or a negative force for nature conservation depending on how it is conducted (Budowski, 1976). On some occasions, it is even possible for both positive and negative effects to be present. This range of possibilities applies to all forms of wildlife tourism, that is, whether it relies on captive, semi-captive or free-ranging species, or on whether it is consumptive or non-consumptive.[2]

There are diverse ways in which wildlife tourism can support nature conservation. It may support conservation:

- By providing economic benefits directly to those who conserve nature;
- By giving economic benefits to others; and
- By altering the beliefs, attitudes and behaviours of wildlife tourists and members of the community.

Direct and economic benefits to landholders from wildlife tourism

In some cases, revenue obtained from wildlife tourism by the holders of non-public (non-state) land helps to conserve species. For example, revenue obtained from visitors at the following sites provides funds for the conservation of free-ranging wildlife species:

- Mareeba Wetland and Savannah Reserve (managed by an NGO)
- Penguin Parade, Phillip Island, Vic.
- Royal Albatross Colony, Otago Peninsula, New Zealand (managed by a trust)
- "Penguin Place", a private farm on the Otago Peninsula.

Other examples could be quoted. However, in most cases, the economic incentives for private landholders to conserve free-ranging wildlife species for tourism is weak. Therefore, there is a high degree of reliance on public (state) land and public aquatic areas for wildlife tourism.

Indirect economic benefits from wildlife tourism

Those not directly involved in wildlife tourism but who provide accommodation, food and other commodities for visitors who come to an area to engage in wildlife tourism sometimes

obtain a large amount of revenue from the presence of wildlife tourism. They therefore, have an interest in the wildlife tourism industry being sustained and may add their political support to conserving the wildlife on which the industry depends.

For example, a study which I conducted of wildlife tourism in the Otago Peninsula in New Zealand found that about the equivalent of 70 full-time persons were employed at sites where wildlife tourism was conducted. However, this tourism generated at least 700 extra jobs in the Otago Regions which includes the city of Dunedin (Tisdell and Wilson, 2012, Ch. 13). As a result of a survey of visitors coming to Mon Repos to see turtles, it was estimated that the primary expenditure generated by the rookery in the Bundaberg region was at least 10 times greater than the revenue obtained from entrance fees to the rookery (Tisdell and Wilson, 2002). However, the size of the indirect economic benefit from wildlife tourism varies according to the particular cases involved.

4. Diversity in the Wildlife Tourism Industry and some Challenges Facing it

Diversity

On the supply side, the wildlife tourism is very diverse. Organizations managing wildlife include private businesses, NGO, tribal groups and government bodies. Some wildlife tour operators rely on free range wildlife whereas others depend on captive or semi-captive wildlife. They also vary markedly in size. Some are operated by one individual or a couple of persons whereas others have many employees such as large zoos and the Penguin Parade. In addition there is considerable variation in the number of tourists or visitors for which they cater for annually as well as for the size of their annual turnover.

Differences in the overhead costs (inescapable) costs of those involved in wildlife tourism are also important. The higher these are as a proportion of total costs, the more vulnerable is the tourist enterprise to a drop in tourist demand. Zoos and aquaria seem to have a high level of inescapable costs in proportion to their total costs. This may also be so for firms involved in marine touring e.g. whale watching, diving trips, because a considerable amount of funds are tied up in their vessels. On the other hand, the inescapable costs of some wildlife tour operators are very low. For example, this is true for operators who rely on customers contacting them by phone or email, meeting them at a pre-determined place from which they are guided by foot to view wildlife. Some tree-kangaroo tours are conducted in this way.

Economic challenges facing those conducting wildlife tours or those involved directly in wildlife tourism

The wildlife tourism industry faces several economic challenges. These include the following:

Seasonal variation in the availability of some species

The presence of some wildlife species is seasonal. This is true, for example, of whales along Australia's coastline and the nesting of turtles at Mon Repos. Consequently resources used to conduct such tours are only utilised for a part of the year, and may have little or no alternative use in the off-season.

Demand is vulnerable to weather events, especially catastrophic ones

Poor weather tends to reduce the number of tourists engaging in wildlife tourism and seasonal variations in demand linked to weather patterns can be expected. In addition, catastrophic weather events, such as cyclones, disrupt wildlife tourism. For example, cyclones 'Yasi' and 'Larry' resulted for a time in a drop in the number of tourists visiting North Queensland and reduce the population of some wildlife species (for instance, tree kangaroos and cassowaries) utilised there for tourism.

The demand to engage in wildlife tourism is sensitive to general economic conditions

The demand to engage in tourism, including wildlife tourism, is sensitive to income levels. The more secure is income and the higher is its level, the greater tends to be the level of tourism demand. Insecurity of income and a reduction in income has the opposite effect. Consequently, the Global Financial Crisis has negatively affected outbound tourism from countries most affected by it.

Variations in the international exchange rate

Other things unchanged, an appreciation in the currency of a host country reduces the number of its overseas visitors and increases outbound tourism by its residents. This has a negative effect on the demand for tourism in a country experiencing an appreciation in the value of its

currency. The Australian dollar has appreciated in recent years, largely due to the mining boom in Australia. This has resulted in reduced demand for tourism, including wildlife tourism in Australia.

Variations in the cost of inputs used in conducting wildlife tourism

Different types of wildlife tourism differ in their resource intensities – some are capital-intensive whereas others are labour-intensive. Small group tours in which the number of tourists to guides is low tend to be quite labour-intensive. Furthermore, they have to be kept to a low scale to avoid disturbing or adversely affecting wildlife. Costs of conducting small tours rise as the level of salaries increase in the economy. This can result in loss of wildlife guides to other industries able to pay higher salaries. For example, salaries paid in Australia's mining industry are now quite high and are attracting labour from other industries.

Costs associated with government regulation of wildlife tourism

Governments in Australia require wildlife tour operators to obtain various approvals and licences for which fees must be paid. A tour operator operating in more than one state must, as a rule, obtain permits to operate in each state where business is to be conducted. The fees involved tend to be a particular burden on small-scale operators because flat charges usually are required for the permits. There are also delays in the issue of permits. In general, these regulations make it difficult for small-scale operators to enter the wildlife tourism industry and survive.

Insurance

A further cost incurred by operators involved in wildlife tourism is insurance. Because of transaction costs involved in the supply of insurance cover, insurance premiums tend to be relatively higher for small-scale tourism operators than for large-scale ones. (For a related discussion see Tisdell *et al.*, 2012).

Given the diversity of businesses and other organisations (such as NGOs) in the wildlife tourism industry and differences in their economic circumstances, it would be useful to have

more research into the economics of operating these different types of wildlife tourism enterprises, and the types of economic pressures which they must deal with.

5. Conclusion

The economic benefits from wildlife tourism (or more generally nature tourism) can be measured in different ways. The two most common methods used for this purpose are (1) economic valuation and (2) economic impact analysis. The former focuses on the extra economic value created by nature tourism whereas the latter focuses on the expenditure which it generates. As shown, these methods usually result in different estimates of economic benefit.

Tourism Research Australia used an estimate of the amount of expenditure generated by nature tourists to determine the economic benefit to Australia of nature tourism. However, it was argued that its estimate exaggerates the economic importance of nature tourism to Australia because, for example, its definition of what constitutes a nature tourist is too wide. An alternative method of determining the primary expenditure generated by wildlife tourism in a region is suggested.

It is emphasised that the economic benefits from wildlife tourism should not be judged only by the amount of spending generated by it. Nevertheless, at the local or regional level, the amount of expenditure generated by wildlife tourism is likely to be important in generating political support for it.

While the economic benefits from wildlife tourism can be a powerful force for supporting nature conservation (particularly when its indirect economic benefits are taken into account), its effectiveness depends on such factors as the nature of property rights and the state of governance. Therefore, individual assessments are frequently needed to determine whether benefits from wildlife tourism promote nature conservation. In some cases, (for example, when there is open or unregulated access to wildlife used for tourism), larger benefits from wildlife tourism can increase visitor numbers and can have negative effects on wildlife population, for instance, due to habitat changes to accommodate tourists (see Tisdell and Wilson, 2012, Ch. 9 for example), excessive hunting of game if game-hunting is practised, and human disturbance of animals.

It was also pointed out that organisations catering for wildlife tourism are extremely diverse in their legal forms, in their size, in their economic structures, and in the type of wildlife experiences catered for. Those in the industry face several economic challenges which were identified. Since most wildlife tourism involves outdoor activities, weather-related events have a significant impact on the economics of operating in this industry but this is not the only type of challenge faced by this industry.

Notes

1. See for example, Driml (2012) and references given there.

2. Hohl (2012) points out that even ecotourism may result in biodiversity loss.

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APPENDIX

A copy of the Power Point slides used to illustrate this topic in a keynote presentation to Wildlife Australia's 3rd National Workshop

ECONOMIC BENEFITS, CONSERVATION AND WILDLIFE TOURISM

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Prepared for Wildlife Tourism Australia's 3rd National Workshop, "Using Wildlife for Tourism: Opportunities, Threats, Responsibilities". Currumbin Wildlife Sanctuary, Gold Coast, 16-18 May, 2012. This keynote presentation is scheduled for 8.45 am, Wednesday 16 May

1

COVERAGE

1. Introduction
2. Economic Benefits from Wildlife Tourism, How Are They Measured? How Large Are They?
3. Consequences of Wildlife Tourism for Conservation: Does Wildlife Tourism Conserve Biodiversity?
4. Diversity Within the Wildlife Tourism Industry and Its Economic Challenges
5. Conclusions

2

1. INTRODUCTION

- Wildlife tourism is claimed to generate massive economic benefits and to contribute significantly to nature conservation, especially biodiversity conservation.
- However, estimates of its economic benefits vary dramatically depending on how they are measured.
- Tourism Research Australia estimates that nature tourism could be responsible for injecting an expenditure of over $30 billion annually into our economy; a very large sum indeed. Is this a reasonable estimate of the economic benefits from nature tourism?
- To what extent do these economic benefits contribute to conservation? To what extent do those in the front line of wildlife tourism and nature conservation benefit? What are their economic challenges?

2. ECONOMIC BENEFITS FROM WILDLIFE TOURISM

- The economic value of the stock of wildlife is enhanced when it can be sustainably used for tourism and depending on the circumstances, this increased economic benefit can be a powerful force for the conservation of nature.
- Whether or not this extra benefit supports nature conservation depends on several factors. These include how large it is, how it is distributed between the stakeholders and the nature of property rights in wildlife, and associated governance.
- Consider first the measurement of the size of economic benefits from wildlife tourism.

Two Different Approaches to Measuring the Economic Benefits of Wildlife Tourism

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- Basically two different approaches to measuring the economic benefit from wildlife tourism are to be found in the literature.
- These are:
  - Measures of its net economic value
  - Measures of its economic impact
- Estimates based on net economic value or worth focus on estimating and aggregating
  - The surplus which wildlife tourists obtain from their experiences (consumers' surplus), that is their valuation of their experience less their costs, plus
  - The profits of these businesses catering for their needs of wildlife tourists (producers' surplus).
- Economic impact analysis measures the consequences of wildlife tourism for economic variables such as the level of expenditure, income and employment. It focuses on what tourists actually pay for their experience rather than its net economic value or worth to them.

5

The Application of These Measures

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- Estimating the net economic worth of wildlife tourism can be costly and difficult. It has generally only been applied as a measure of nature or wildlife as an attraction at particular sites e.g. turtles at Mon Repos, flamingos at a lake in Kenya.
- Economic impact analyses are more common. Their geographical coverage can be at the local, regional or national levels. Most government estimates of the economic benefit of tourism are based on this approach.
- The dollar values of the results from applying these two methods can differ a lot.

6

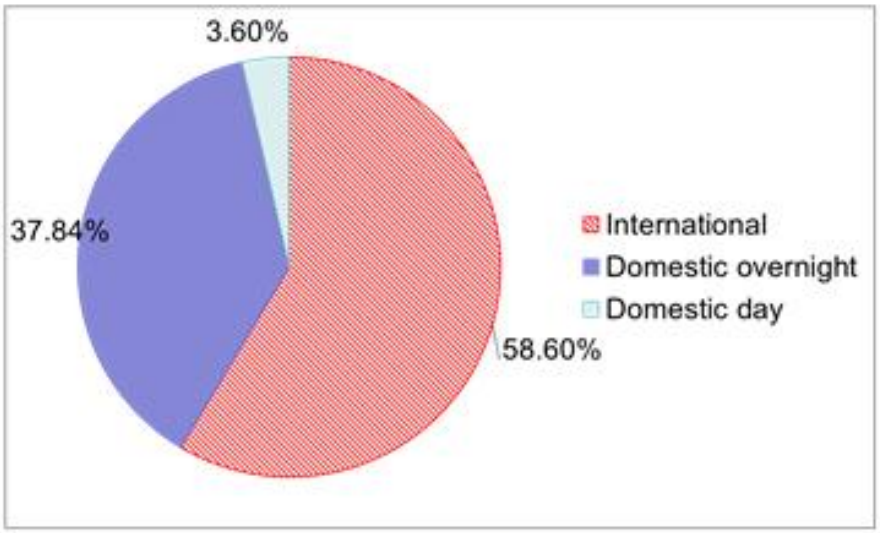
- Tourism Research Australia (part of the Department of Resources, Energy and Tourism of the Australian Government) used the expenditure method to estimate the economic benefit to Australia of nature tourism in 2009. Its estimates are given in Table 1

Type of nature visitors	Total expenditure A$ billion	Percentage of total expenditure
International	19.5	58.56
Domestic overnight	12.6	37.84
Domestic day	1.2	3.60
TOTAL	33.3	100.00

Source: Extracted from Tourism Research Australia (2010) "Snapshots 2009. Nature Tourism in Australia".

- These figures indicate that nature visitors spend over a $1,000 annually per Australian.
- The major amount of that expenditure (nearly 60%) is attributed to international visitors. The composition of this expenditure is highlighted in Figure 1.
- Although these expenditure figures are interesting, they exaggerate the expenditure generated by nature tourism in Australia.
- Furthermore, the revenue received by those in the wildlife tourism industry is much lower than these figures might suggest.

Figure 1: The relative contribution of international and domestic nature visitors to tourism expenditure in Australia in 2009



9

Limitations of the TRA Estimates

- Tourism Research Australia's test of whether a visitor is a nature visitor is not very discriminating.
- Anyone who participates in any one of the following activities at least once while travelling in Australia in 2009 was classified as a nature visitor:
  - Visit national parks or state parks
  - Visit wildlife parks, zoos or aquariums
  - Visit botanical or other public gardens
  - Bushwalking or rainforest walks
  - Whale or dolphin watching (in the ocean)
  - Snorkelling
  - Scuba diving

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Limitations of the TRA Estimates (Cont.)

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- All the tour/travel expenditure of these persons while on a trip is attributed to such visitor being a nature visitor.
- However, much of their expenditure is not generated by the presence of nature or the possibilities for wildlife tourism. Even the distinction made later in its fact sheet by the ATR between purposeful and incidental nature visitors does not completely overcome the problem.

11

A Way to Determine the Regional and Local Economic Importance of Wildlife Attractions

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- Wildlife tourism is often an important source of income for rural regions, many of which have limited local opportunities.
- One way to estimate its economic importance to a region is to survey visitors to find out whether they would have visited the region or area in the absence of the wildlife attraction(s). The expenditure in the region by all visitors who state that they would not have visited the region in the absence of its wildlife attraction(s) can be attributed to the presence of those attractions.
- Those who would have visited the region anyway may have spent more (e.g. stayed longer) because of its wildlife attraction(s). This expenditure can be attributed to the presence of the region's wildlife.

12

Some Examples of the Importance of Wildlife in Attracting Visitors to Particular Areas

- A survey of visitors to Mon Repos Conservation Park (conducted in the turtle season of 1999/2000) found that 40% of respondents would not have visited the Bundaberg region in the absence of sea turtles and 19% would have reduced their length of stay.
- A survey of visitors to the O'Reillys/Green Mountains Section of Lamington National Park revealed that in the absence of birds, 30-40% of respondents would not have visited this site.
- In a survey of passengers on a tour vessel going to Antarctica, only 13.5% said that seeing wildlife there was not very important in their decision to join the cruise. For most, it was a very important consideration.

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3. CONSERVATION CONSEQUENCES OF WILDLIFE TOURISM

General Points

- Wildlife tourism can be a positive, neutral or a negative force for nature conservation depending on how it is conducted.
- This is true of all forms of wildlife tourism, that, whether it relies on captive, semi-captive or free-ranging species, or on whether it is consumptive or non-consumptive.
- There are diverse ways in which wildlife tourism can support nature conservation. It may support conservation:
  - By providing economic benefits directly to those who conserve nature.
  - By giving economic benefits to others.
  - By altering the beliefs, attitudes and behaviours of wildlife tourists and members of the community.

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Conservation and Economic Benefits to Landholders from Wildlife Tourism

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- In some cases, revenue obtained from wildlife tourism by the holders of non-public (non-state) land helps to conserve species.
- For example, revenue obtained from visitors at the following sites provides funds for the conservation of free-ranging wildlife species:
  - Mareeba Wetland and Savannah Reserve (managed by an NGO)
  - Penguin Parade, Phillip Island, Vic.
  - Royal Albatross Colony, Otago Peninsula, New Zealand (managed by a trust)
  - "Penguin Place", a private farm on the Otago Peninsula.
- Other examples could be quoted. However, in most cases, the economic incentives for private landholders to conserve free-ranging wildlife species for tourism is weak. Therefore, there is a high degree of reliance on public (state) land and public aquatic areas for wildlife tourism.

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Examples of (Large) Indirect Economic Benefits from Wildlife Tourism

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- A study which I conducted of wildlife tourism in the Otago Peninsula in New Zealand found that about the equivalent of 70 full-time persons were employed at sites where wildlife tourism was conducted. However, this tourism generated at least 700 extra jobs in the Otago Regions which includes the city of Dunedin.
- As a result of a survey of visitors to Mon Repos turtle nursery, it was estimated that the primary expenditure generated by the rookery in the Bundaberg region was at least 10 times greater than the revenue obtained from entrance fees to the rookery.
- However, the size of the indirect economic benefit varies according to the particular cases involved.

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4. DIVERSITY IN THE WILDLIFE TOURISM INDUSTRY AND CHALLENGES FACED

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General Observations

- On the supply-side, the wildlife tourism industry is extremely diverse. Participants include private businesses, NGOs and government bodies.
- Businesses and NGOs involved in the industry vary a lot. Some rely on free-range wildlife and others depend on captive or semi-captive wildlife.
- Organisations in the industry vary markedly in size and in their cost structures. Some have high overhead costs (for example, zoos, whale watching cruises) whereas some have low overhead costs (for example, tree-kangaroo tours conducted by locals on a demand basis).
- Nevertheless, many of those in the industry in Australia face similar economic pressures.

The following are some of the economic challenges faced in this industry

- Seasonality in the availability of the species, e.g. whales.
- Vulnerable to catastrophic weather events – Cyclones Yasi and Larry reduced (for a time) the number of tourists visiting North Queensland and reduced the population of some wildlife species utilized there for tourism.
- Demand to engage in wildlife tourism is affected by general economic conditions. For example, the Global Financial Crisis has had a negative effect on tourism.
- The high Australian dollar has had an adverse effect on the number of international visitors to Australia and consequently, on wildlife tourism here.
- More research is needed on the economics of businesses and NGOs operating in the wildlife tourism industry.

5. CONCLUSIONS

- Nature tourism is an important industry in Australia but the amount of expenditure attributed to nature tourists by Tourism Research Australia seems to exaggerate its importance.
- The economic benefit obtained from wildlife tourism should not be judged only by the amount of spending generated by wildlife tourism.
- The economic benefits from wildlife tourism can be a powerful force for nature conservation, particularly if its indirect economic benefits are taken into account.
- The wildlife tourism industry involves very diverse participants, and as indicated, faces several economic challenges.

6. ADDED COMMENTS

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According to *Travel Impact Newswire* (11 May, 2012):

- The United States Fish & Wildlife Service estimates that wildlife watchers in the US spend about US$32 billion per year on this activity.
- There is about the same as Tourism Research Australia's (doubtful) estimates for Australia.
- The UNEP *Green Economy Report* found that ecotourism is increasing at about 6 times the rate of growth in tourism generally.
- The economic importance of wildlife tourism and its continuing growth potential is being more widely recognised as is its potential to support wildlife conservation. However, the industry faces significant restraints in Australia.

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Thank you

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