Koalas and Tourism:
An Economic Evaluation

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with contributions from
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Executive Summary

It has been understood for some years that Australia's unique and fascinating wildlife is a vital factor in attracting foreign tourists. A large and rapidly growing part of the Australian economy has been built on the promotion of images of exotic fauna and outback expanses. As a result, the future of the tourism industry now depends heavily on the protection of our natural environment.

Koalas appear to play an especially important role in foreign images of Australia. While there has been considerable evidence of the importance of koalas to some segments of the inbound tourism market, the results of this study indicate that the importance of koalas is even greater than previously believed. A review of evidence carried out for this study suggests that koalas have an iconic status in attracting foreign tourists.

This study of the contribution of koalas to the Australian tourism industry is the first systematic attempt to evaluate the economic role of this creature. It is most important to state that in assessing the economic value of koalas to tourism, the authors do not believe that this is what koalas are worth. Ethical considerations are sufficient motivation to protect Australia's biological diversity.

A major component of this study was a survey of 419 departing foreign tourists. The survey was conducted at Sydney and Brisbane airports and included administration of a Japanese translation to 115 Japanese visitors. The survey managed to ensure a representative sample by comparison with the demographic information in the International Visitors Survey. Among the results of the survey, we have discovered that:

- Nature-based activities are a major attraction for foreign tourists, with 22 per cent nominating Australia's unique wildlife as a factor that influenced their decision. In addition, National Parks and wilderness areas were nominated by 21 per cent, the outback by 15 per cent and bushwalking by 8 per cent.

- When asked which animals they particularly wanted to see in Australia 72 per cent of respondents nominated koalas. Along with kangaroos (66 per cent), koalas were by far the most popular creature.

- Sixty seven per cent of respondents said that nature-based activities were quite important or very important to their experience in Australia.

- Seventy five per cent of inbound tourists said that they hoped to see a koala when making the decision to come to Australia, and 70 per cent of departing tourists reported that they had actually seen one.

- When asked whether they would have changed their decision to come to Australia if there were no unique wildlife, 11 per cent said 'yes'.

This last figure has been used to estimate the tourist revenue that would be lost in the absence of unique Australian wildlife, of which the koala is an extremely important part. Applying this proportion to 1996 tourism revenue of $16.1 billion gives $1.8 billion, an upper bound on the contribution of koalas to the Australian tourism industry, a figure that is likely to rise to $2.5 billion in the year 2000.

The study also estimates the amounts spent on viewing koalas and buying ‘koalabilia’ in Australia – taking account of the costs of visiting zoos and wildlife parks, accommodation, photographs with koalas and souvenirs. This is only a partial evaluation of the ‘koala industry’ and so provides a lower bound on the economic contribution of koalas. The estimated expenditure is $336 million per annum.

Based on these upper and lower bounds, our best estimate of the contribution of koalas to the Australian tourism industry and thus the Australian economy is $1.1 billion. This translates into around 9,000 jobs directly accounted for by koalas. These are expected to increase rapidly over the next decade.

1. Outline of the Study

When President Clinton visited Australia last year, one of the most powerful images to appear in the national and international press was a picture of a delighted President holding a koala. The koala appears to have achieved iconic status in other countries – a powerful symbol of Australia as a land of exotic, fascinating and attractive creatures set in landscapes largely untouched by industrial blight.

This has major economic implications. It has been understood for some years that Australia's unique wildlife is a vital factor in attracting foreign tourists. In a world where access to unspoiled natural features is for most people no longer possible, the images of outback expanses and exotic flora and fauna are proving increasingly alluring, and tourists are willing to pay substantial sums to visit Australia to experience them. As a result, a large and rapidly growing part of the Australian economy has been built on the promotion of these images of Australia and now depends on the protection of our natural environment.

At the same time, awareness of the importance of biodiversity conservation and protection of the remaining areas of Australia that are relatively unspoiled has developed rapidly in Australia over the last twenty years or more. The growth of the conservation movement reflects a deep concern among Australians that we have pushed our natural environment too hard and for too long and that we must now protect what remains. Millions of Australians will never see a whale or a spotted-tailed quoll, but there is a strong sense in the community that it is wrong for humans to be killing them, either directly or through destruction of their habitat.

For the most part, this urge to protect is not motivated by economic gain, or even by a desire to be able to personally experience the natural environment. It is motivated by a simple belief that protecting the natural world is the right thing to do.

The difference between these motivations for protecting the environment – the one ethical and the other economic – is very important for understanding the purpose of the present study. While this study assesses the financial importance of koalas to the Australian tourism industry, that is not the same as saying that the estimated amount is what koalas are worth. This study looks only at one aspect of the economic value of koalas, and most Australians would undoubtedly agree that their economic value is not the most important reason for protecting them. If they were worth nothing at all to the Australian tourism industry – as is the case for most of Australia's native flora and fauna – this would in no way diminish the importance of protecting them.

This report is structured as follows. Section 2 describes and assesses existing information on growth of inbound tourism in Australia and the importance of nature-based attractions in bringing tourists here. There is very little information, other than anecdotal evidence, on the importance of koalas to inbound tourism, but the available data are reviewed here.

Section 3 provides details of a new survey of departing tourists. The survey was designed to assess the importance of nature-based activities, and koalas in particular, to inbound tourism in Australia. The survey was carried out at Sydney and Brisbane airports and included a large sample of Japanese tourists. The results provide some important new insights into the motivations of tourists and the significance of nature-based attractions.

Section 4 analyses the industries in Australia that depend on koalas – ranging from wildlife parks and zoos to toy makers and manufacturers of 'koalabilia'. Although it is not possible to examine comprehensively the revenue and employment implications of koalas to this range of industries, the information available gives a good overview. This information is combined with the survey results to provide two independent estimates of the economic importance of koalas to the Australian tourism industry.

2 Review of Available Evidence

2.1 Koalas as a tourist attraction

For foreign and domestic tourists alike, the opportunity to see and perhaps touch a koala is an experience that has great appeal. There is a wealth of anecdotal evidence that koalas are an important aspect of a set of unique natural attractions that shape the image of Australia as a tourist destination for both domestic and overseas visitors.

> Gumdrop has been in demand over the past week….. Today Gumdrop will pass through the hands of hundreds of tourists, she'll be the focus of countless cameras, she'll cause people to laugh and people to cry. For many the chance to finally hold Gumdrop, or one of her many koala colleagues, will be a once in a lifetime dream come true (Beeh 1994:26).

Tourist attractions like koalas are important in drawing travellers away from their homes and are essential to the successful development of any tourist destination. For some tourists, the experience of koalas will be an intrinsic part of the trip, in which the demand for the attraction is established before the trip commences. Alternatively, viewing koalas can be a major motivator for a trip or selecting a destination, or it could be an optional, discretionary activity engaged in at a destination (Bull 1991).

The attraction of koalas for tourists fulfils all three roles described above. However, observing koalas is unlikely to be a single focus activity. A koala experience interacts with a wide range of other activities and attractions such as bushwalking, nature appreciation, relaxation, cultural absorption and so on. While comprehensive data exist on tourist demand and behaviour patterns, information on their preferences and activities are often aggregated into broad categories – such as ecotourism, sports and rural farm stays. As a result, existing tourism data collections contain insufficient detail on the type of wildlife seen and the relative importance of that experience to the tourist. [1]

Another difficulty is that visitation numbers alone may not reflect the true importance of an attraction in drawing visitors to an area. While wildlife sanctuaries or zoos built for the purpose of viewing koalas may draw large numbers of tourists, they tend to be found in or near urban centres where tourists and tourist services concentrate. A large proportion of zoo visits may thus be discretionary and dependent on convenience of access. On the other hand, small numbers of visitors to a natural bushland where one may 'discover' koalas, could be regarded as a primary destination for one segment of

[1] Much of the information collected on tourist characteristics, behaviour and expenditure patterns in Australia comes from data collected by the Bureau of Tourism Research (BTR). Two major surveys, the International Visitor Survey (IVS) and the Domestic Tourism Monitor (DTM), collect national-level data on tourist markets. The IVS obtains information from departing short term international visitors at major international airports. The DTM is a household survey of domestic travel undertaken by Australian residents.

the travel market[2]. For all these reasons, it is difficult to determine precisely the contribution of koala viewing to tourism.

In assessing the appeal of koalas to tourists, this report adopts a broad definition of a tourist attraction. We use the term to refer simply to those features of a destination that appeal to tourists, regardless of whether or not they are managed specifically for visitors (Lew 1987). Accordingly, any place where there is a likelihood of viewing koalas is regarded as a koala attraction; this includes zoos, wildlife sanctuaries, national parks, other nature-based tourist facilities and natural koala habitat. The report investigates the extent to which koalas can be deemed to be a focus of visitor attention.

The discussion in this section attempts to assess the importance of koalas as a tourist attraction for both international and domestic tourists in Australia by examination of evidence on the following issues:

- trends in international and domestic tourism;
- the reasons foreign tourists chose Australia;
- what foreign tourists like about Australia;
- the contribution of nature-based outdoor activity to tourist satisfaction;
- visitation to specific areas known for the presence of koalas;
- expenditure made on visiting various natural attractions; and
- the contribution of koalas to the tourism industry.

2.2 Overview of international and domestic tourism trends

Since 1985, numbers of international visitor to Australia have more than doubled, partly as the result of the Australian economy becoming more open, the encouragement of foreign investment, and greatly improved transportation links with the world's largest tourism markets in Europe, North America and, in particular, the nations of East and South East Asia (Stimson et al. 1996).

In 1993, Australia ranked around twelfth in the world in absolute numbers of international tourist arrivals, having been ranked nineteenth in 1985 (Stimson et al. 1996:12). Although Australia is considered to be a long-haul destination to most of the travelling world, the boom in our popularity as a travel destination reflects, to a large degree, the uniqueness of our natural features, lifestyle and culture.

Figure 1 indicates that international tourism is still attaining very high rates of growth in the mid-1990s. The number of visitors to Australia trebled from just over one

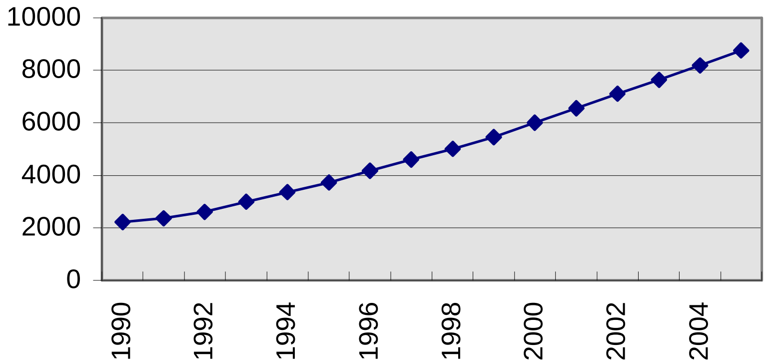
[2] This spectrum of wildlife-tourism interaction opportunities from captive to wild has been described in detail by Orams (1996).

million international visitors in 1984, to 3.7 million in 1995 (ABS 1994; BTR 1996). Between 1994 and 1995 extraordinary growth rates were set by Korea (53 per cent), China (43 per cent) and India (41 per cent). However, the growth in international visitor numbers is slowing. In particular, Australia's share of the fastest growing sectors of the Asian-Pacific tourism market, – visiting friends and relatives and business tourism – is declining (Stimson et al. 1996).

Japan is our largest source market contributing 21 per cent of the total inbound market. Japan is expected to remain our largest market for the foreseeable future with arrivals expected to double from 1995 to 2005 (BTR 1996). As discussed in later sections of this paper, koala viewing is a particularly important activity for Japanese tourists. One survey found that approximately 29 per cent of Japanese tourists on the Gold Coast stated their main reason for choosing Australia as a holiday destination was to hold a koala (Japanese Tourism Association of Queensland 1996).

Other major source markets are set to grow, with Asia as the fastest growing source market. Countries such as Indonesia, Malaysia and Thailand are forecast to record growth rates of well above 10 per cent a year (Office of National Tourism 1996). Arrivals from China are forecast to increase by 21 per cent a year over the next decade. Such large and rapid growth in Asian tourism is anticipated to foster strong growth in nature-based tourism.

Figure 1 International visitor arrivals ('000), 1990-2005, actual and forecast



Source: BTR 1995, BTR 1996, Tourism Forecasting Council 1996

Table 1 shows the main reasons for visiting Australia by international visitors. About 60 per cent of visitors came to Australia for a holiday. Visiting friends and relatives was the second most common purpose of visits (19 per cent). Holiday tourism is the most significant form of tourism for nature and wildlife related activities. The growth in Asian tourism noted above is particularly significant given that Asian countries had a higher proportion of holiday visitors than any other market. Japanese (89 per cent), Taiwanese (81 per cent) and Korean (77 per cent) visitors are primarily coming to

Australia for a holiday. Japanese tourists make up 32 per cent of the total holiday market.

Overall, Australia’s prospects for international tourism remain highly favourable (Stimson et al. 1996:13). Growth in tourism is likely with the Sydney 2000 Olympics contributing to an increased awareness of Australia as a travel destination (Commonwealth Department of Tourism 1995:3). By the year 2005, around 8.8 million overseas visitors are expected to come to Australia (Figure 1). This is an average annual growth rate of 8.9 per cent.

Table 1 Country of residence by main reason for visiting Australia, 1995

	Holiday	Visiting friends & relatives	Business	Other	Total visitors
	per cent				'000
New Zealand	41	30	19	10	490.7
Japan	89	2	4	5	737.9
Hong Kong	55	22	11	12	117.3
Taiwan	81	5	5	10	138.3
Thailand	68	7	6	19	72.5
Korea	77	6	6	11	160.6
Malaysia	56	19	8	17	94.4
Singapore	69	11	10	10	168.5
Indonesia	61	10	7	21	107.6
Other Asia	26	26	22	26	102.8
United States	46	18	22	14	287.6
Canada	45	33	12	11	55.0
United Kingdom	39	46	8	7	335.4
Germany	72	15	7	7	119.8
Scandinavia	55	20	13	13	47.6
Other Europe	53	26	10	12	211.2
Other Countries	38	27	10	26	174.7

Source: BTR 1996. Visitors aged 15 years and over.

In contrast to the international sector, the domestic sector has experienced low growth rates over recent years (0.1 per cent between 1985/86 and 1993/94) (Draft Queensland Ecotourism Plan n.d.; Industry Commission 1996). Despite this, the domestic market accounts for 75 per cent of total visitor nights, 246 million nights 1994-95 (Tourism Forecasting Council 1996). Holiday travel accounts for 42 per cent of domestic visitor nights. Steady growth is expected in the domestic tourism sector over the next decade.

2.3 The reasons foreign tourists choose Australia

Tourists visit Australia seeking a variety of experiences. The World Tourism Organisation (1994: 48) has noted that 'in practice, few tourists undertake a holiday solely related to nature or a country's culture'. However, international tourists have ranked issues such as beautiful scenery, vastness, cleanliness, natural wonders and wildlife, and good beaches as major attributes influencing their choice of Australia as a travel destination (Ecologically Sustainable Development Working Group on Tourism, 1991; Draft Queensland Ecotourism Plan n.d.). In addition to a place's physical or cultural appeal, a person's choice of holiday destination is influenced by a wide range of factors including the price competitiveness of the destination and their disposable income (Tourism Forecasting Council 1996). For international holiday makers the desire to visit a place is fuelled by comparisons to other destinations, both domestically and overseas, offering similar attractions[3]. For these travellers, the choice of destination and type of holiday activity is fundamental to the entire trip. However, for business travellers or those visiting friends and relatives, the destination and main activity is largely predetermined.

One of the most notable trends in tourism today is the growth in tourists' desire for increased knowledge, awareness and appreciation of natural areas. Few data currently exist on nature-based tourism. The 1995 International Visitor Survey (IVS) contained a supplementary survey on ecotourism with questions about the importance of nature-based tours. One question asked respondents to indicate how important wildlife viewing was in deciding to undertake the tour. The results of this survey were not available at the time of writing. Findings on general trends in nature-based tourism are summarised in Box 1.

From the IVS it is possible to identify tourists whose main purpose for travel is to experience nature-based attractions – see Table 2. Half of the visitors to Australia went to zoos, animal parks or aquariums, and half went to National Parks or similar areas. According to the BTR (1996), visitors on inclusive package tours – mainly from Japan, Taiwan and Korea – were more likely to visit zoos, animal parks and aquariums than any other visitors. North American and European visitors were much more likely to visit National Parks or go walking for pleasure than Asian or New Zealand visitors.

[3] Thirty nine per cent of most holiday visitors obtained information about Australia from their travel agent, 26 per cent from a travel book/guide and 30 per cent did not obtain information overseas. Thirty nine per cent of holiday makers visited on a group tour and 61 per cent non-group travel. Marketing by the Australian Tourist Commission tends to emphasise both city and nature experiences.

Box 1 Summary of trends in nature-based tourism

- Orams (1996) notes a consensus in the tourism literature that demand for opportunities to interact with nature has been increasing rapidly.
- In a review of Australian trends, Blamey (1995:53) notes that nature-based tourism appears to play a significant role in the inbound tourism market.
- Ecotourism is potentially the fastest growing segment in the international tourism market (Draft Queensland Ecotourism Plan n.d.: 25).
- The demand for visits to natural environment areas is expected to grow, possibly at a faster rate than tourism generally (Driml 1994:5).
- Wildlife interaction (observing, feeding, touching, photographing or otherwise experiencing wild animals) occurs in a variety of settings and, in recent years, has become increasingly popular (Orams 1996).
- The New Zealand Tourism Board (1992) notes several structural changes of demand occurring in the Asia-Pacific travel market. These include:

– an interest in the environment as a major theme;

– tourists want a unique travel experience; and

– a demand for genuine cultural experiences where visitors seek interaction with local people and customs.

- Thirty one per cent of inbound visitors who were particularly influenced in their decision to come to Australia by the opportunity to undertake nature-based activities were here on a return visit (Blamey 1995:65)
- The Federal Government committed $10 million over four years from 1993-94 to implement the National Ecotourism Program. In addition, $1.9 million has been allocated to develop projects that enhance ecotourism in forests (Commonwealth Department of Tourism 1995).
- Moore and Carter (1993) report on survey results that show that the recent trend in environmental tourism will continue to grow well into the 21st century.

Table 2 Foreign visitors by nature-based activities, 1995

Activity	Holiday	Visiting relatives friends	Total Visitors	
	per cent		%	'000
National/State Parks	56	52	50	1 711.0
Zoos, animals, marine parks	62	38	50	1 711.0
Whale watching	1	2	1	342.2
Bushwalking	22	19	19	650.2
Outback safari tours	4	2	3	102.6

Source: BTR 1996

With 50 per cent of inbound visitors reporting visits to National Parks and reserves and 50 per cent visiting zoos, animals and marine parks, nature-based tourism and wildlife appreciation would appear to play a significant role in the inbound tourism market. However, it is worth noting that only 6 per cent of National Parks are known to have koalas present (D. Tabart *pers. comm.* 1996).

Beeh (1994:28) reports that 'surveys conducted by the Australian Tourist Commission suggest about 75 per cent of European and Japanese visitors are most attracted by natural features. Koalas top the list of animals they want to see'. However, wildlife experiences differ for Japanese and Europeans. The chair of the Victorian Tourism Commission explained that the Asian idea of wildlife was very different from the European one: 'It's much tamer … They are not interested in going on safari in the Northern Territory …. They are interested in looking at a koala, seeing a platypus or touching a wombat' (cited in Backhouse 1991).

The Australian Tourist Commission's International Tourism Marketing Manual (1993) found that :

- more than half of potential tour travellers from the USA and Canada are reported to be interested in visiting National Parks and seeing wildlife in Australia;
- travellers from Germany identify wildlife, natural wonders and exploring the countryside as desired experiences;
- Scandinavian travellers include a strong backpacker market seeking natural environment and adventure experiences;
- almost half of potential English visitors are included in a secondary target market group characterised by interests including a desire to see wildlife, natural wonders and Aboriginal culture; and

- Asian markets show a lower propensity for interest in natural features, with apparent exceptions being visitors from Thailand and Malaysia. For visitors from Indonesia, Taiwan, South Korea and Japan, less than 25 per cent fall into target groups with significant nature-based interests.

Contrary to the latter finding, the Japan Travel Bureau Foundation (1995) finds that the main priority of Japanese tourists in foreign countries is to see natural and scenic attractions (39.6 per cent), followed by historic and cultural attractions (30.9 per cent) and shopping (29.4 per cent). Approximately 72 per cent of Japanese tourists to Australia and New Zealand stated that their main priority was to see natural and scenic attractions (Japan Travel Bureau Foundation 1995). Similarly, a survey of Japanese tourists to the Gold Coast found that 29 per cent indicated that the main reason for their trip to Australia was to hold a koala (The Japan Tourism Association of Queensland 1996). In response to this interest, the Melbourne Tourist Authority emphasises Australian animals such as penguins and koalas in its marketing strategy for South East Asia (Backhouse 1991).

The IVS provides some data on the features, activities and attractions which prompted decisions to visit Australia. It is apparent from Table 3 that for holiday tourists 11 per cent were particularly influenced by nature, 13 per cent by beaches and 7 per cent by outback and rural areas. Other important influences were friends and relatives (17 per cent) and Australian culture (13 per cent).

Table 3 Holiday tourists by particular influences to visit Australia, 1995

Country of Residence	Nature	Beaches	Outback/Rural Areas	Total Visitors
	per cent			'000
New Zealand	1	2	2	490.7
Japan	9	15	2	737.9
United States	10	7	8	287.6
United Kingdom	9	8	9	335.4
Germany	20	15	24	119.8
Scandinavia	18	15	15	47.6
Other Europe	13	9	15	211.2
All visitors	11	13	7	

Source: BTR 1996. Visitors aged 15 years and over.

The IVS also shows that the relative importance of natural attractions varies depending on the country of residence of potential visitors. Nature is an important influence for European visitors, with 20 per cent of Germans and 18 per cent of Scandinavians listing it. Visiting the outback and rural areas was particularly important for Germans (24 per cent). Table 3 also shows that Australia's beaches were an important influence for Japanese, Germans and Scandinavians (15 per cent each).

The BTR Domestic Tourism Monitor does not collect data on nature-based tourism. However, specific surveys conducted for a particular State or Territory present some information on nature-based tourism. A survey of Queensland visitors showed that, except for boating and fishing, nature-based attractions appear to be relatively more important to overseas visitors that they are for domestic visitors. A Newspoll Survey of domestic tourists (reported in Blamey 1995:38), found approximately half of the respondents reported their intention to visit a natural attraction or National Park to enjoy nature in the next 12 months. Approximately 24 per cent of respondents indicated that they are likely to take a nature-based trip within the next 12 months. Blamey (1995) surmises that the main conclusion to be drawn from this survey is that domestic interest in ecotourism is probably higher than actual demand.

2.4 What foreign tourists like about Australia

The 1995 IVS asked visitors what they enjoyed most about Australia. For all international visitors aged 15 years and over, aspects of Australia that were enjoyed the most include: meeting with friends and relatives (12 per cent), the people (9 per cent), 'everything' (9 per cent) and the weather (8 per cent). Wildlife and nature (5 per cent) was ranked the fifth most enjoyable thing about Australia (Table 4). Based on these data, approximately 171,000 international tourists indicated that the *most* enjoyable aspect about Australia was wildlife and nature. Excluding the category of 'everything', holiday travellers enjoyed the countryside and scenery the most (9 per cent), followed by people (8 per cent), weather (7 per cent), and wildlife and nature (6 per cent).

Enjoyment of wildlife and nature varies depending on the country of residence of visitors – see Table 4. Tourists from Scandinavia (12 per cent), other Europe, Germany (9 per cent each), Thailand and Korea (8 per cent each) and Japan (7 per cent) indicated wildlife and nature as the *most* enjoyable part of their visit. Only 3 per cent of tourists from the United Kingdom and 4 per cent of tourists from the United States said 'wildlife and nature' was the *most* enjoyable aspect of their trip.

Table 4 Foreign visitors by aspects enjoyed *most* about Australia, 1995

Country of Residence	Countryside/ scenery	Parks/gardens	Wildlife/nature	Beaches	Total Visitors
		per cent			'000
New Zealand	5	-	1	2	490.7
Japan	8	-	7	4	737.9
Hong Kong	9	-	3	1	117.3
Taiwan	8	3	6	8	138.3
Thailand	4	3	8	4	72.5
Korea	10	1	8	11	160.6
Malaysia	7	1	3	1	94.4
Singapore	8	-	3	3	168.5
Indonesia	10	2	1	1	107.6
Other Asia	5	1	2	2	102.8
United States	9	1	4	3	287.6
Canada	4	0	5	5	55.0
United Kingdom	6	1	3	2	335.4
Germany	11	1	9	3	119.8
Scandinavia	7	1	12	3	47.6
Other Europe	9	1	9	2	211.2
Other Countries	5	1	3	1	174.7
Total	8	1	5	3	3 422.0

Source: BTR 1996. Visitors aged 15 years and over

2.5 Nature-based outdoor activity and tourist satisfaction

Satisfaction with tourism experiences depends to a large degree on the expectations of individuals (Blamey 1995). For wildlife experiences, the tourist's understanding of the expected likelihood of viewing, photographing and touching an animal will be a crucial factor. In discussing satisfaction related to nature-based tourism, Iso-Ahola (cited in Blamey, 1995:65) suggests that environmental or aesthetic expectations of being able to see characteristics of the environment such as kangaroos, koalas, rainforests, and lakes are most relevant to outdoor recreation environments. Failure to meet expectations is likely to be a major factor underlying most reports of post-trip dissatisfaction.

A visitor's desire for an authentic experience of viewing animals in the wild may not result in an encounter with the desired animals. In such cases the tourist may be left disappointed. However, a degree of satisfaction could be achieved by the expectation itself. Lower than expected visitor satisfaction with wildlife experiences can result from any disappointment felt concerning the amount of care taken to minimise environmental impacts. For example, some tourists to game parks in South Africa have had their satisfaction diminished due to the fact that tour operators attempt to get very close to animals. This can affect the behaviour of animals, impact on habitat and detract from expectations of a ‘wilderness’ experience. On the other hand, it could be the case that another group of tourists are only interested in getting as close as possible to the animals, regardless of impacts. The debate over whether koalas should be handled and cuddled in zoos and tourists parks is somewhat analogous (see Section 2.8).

A fundamental question is whether tourists really want zoos and souvenir shops or whether they are no more than lucrative ways of attracting tourists. Following Gauthier (1993), Orams (1996) suggests that, ‘This general interest in nature and nature-based experiences is reflected in an increasing demand to experience, and *an increasing value being placed on*, wild animals in the wild, as opposed to those in captive or semi-captive situations’ (emphasis added).

How a tourist wants to interact with wildlife and the environment and the degree of any conflict in realising his or her expectations are important factors in nature-based trip satisfaction. In response to this dilemma, a number of studies have attempted to identify multiple consumer segments of nature-based tourists. The various needs and wants of individuals within each segment are specified with the intention of better directing the marketing of nature-based experiences. For example, Chapman (1995) identified four segments of visitors to State Forests in New South Wales, on the basis of experiences sought. These include visitors seeking introspection and spiritual growth, exploration, relaxation, and excitement – see Box 2. Targeting and marketing wildlife and other nature-based experiences to the appropriate visitor group should help to minimise visitor dissatisfaction and facilitate rewarding experiences.

The IVS does not include any information on visitor satisfaction pertaining to nature-based experiences or wildlife. However, Blamey (1995:68) reviews a number of recent studies that examined visitor satisfaction associated with wildlife viewing. For example, a survey of bird-watching tourists found that quality of the guides was an important component of tour satisfaction (Sharrock 1991). Grifone and Weiler (1992) observed the behaviour of participants on a whale watching tour. An analysis of the content of photographs taken on the trip by the tourists showed that photos of landscapes and other travellers were more common than photos of flora and fauna. Knapman (1990) conducted a survey of visitors to Kakadu National Park. Of the activities listed, wildlife viewing was rated as the most important activity. A list of features that added enjoyment to their visit included ranger talks, displays and general park management.

Box 2 Ecotourist market segments - variation in satisfaction factors

What is ecotourism?

- Ecotourism refers to tourists travelling to a particular natural site entirely because of the amenity and recreational value derived from having contact with some aspect of the natural world (Steele 1995).
- Ecotourism is a particular experience in a natural environment (Draft Queensland Ecotourism Plan n.d.).
- Ecotourism is a subset of nature-based tourism that involves education and interpretation of the natural environment and is managed to be ecologically sustainable (Commonwealth Department of Tourism 1994:17).

1. Nature and me (19 per cent of ecotourists)

- Involved in aspects of introspection, involvement in spiritual growth, and sharing skills.
- Creativity, challenge, excitement and skills development are also very important.
- Mean age 32 years, females in the majority (57 per cent).

2. Nature first! (54 per cent of ecotourists)

- Characterised by their sensitivity to the environmental aspects of undisturbed natural beauty, tranquillity, environmental smells and sounds. A strong desire to explore and learn about the natural environment.
- Mean age 38 years, no gender bias.

3. Nature? - Be laid back! (19 per cent of ecotourists)

- Focused on relaxation and passive activities.
- Mean age 37 years, no gender bias.

4. Nature and excitement (8 per cent of ecotourists)

- Interested in excitement, equipment use, or enjoying the company of new and old friends.
- Mean age 27 years, no gender bias.

Source: Chapman 1995, cited in Blamey 1995:126

2.6 Visitation to areas known for the presence of koalas

The top five regions visited by foreign tourists are shown in Table 5. This shows the importance of east coast destinations, ranging from Cairns to Melbourne. The range of koala habitat covers the same general geographic region but with an extension to Adelaide. Most of the major zoos and wildlife parks are also located on the east. This means there is considerable opportunity for foreign tourists to view koalas in a variety of wildlife settings. There is no national data on visits to areas known for the presence of koalas. Visitor numbers at zoos, wildlife parks and some National Parks are available and figures are presented in the table. Most park and zoo managers would rank koalas as their top attraction for foreign visitors, but there are no comprehensive data available which can be used to ascertain the relative importance of koalas as an attraction. This is discussed in Section 4 below.

Table 5 Foreign visitors by region of stay, 1995

Region of Stay	rank	per cent
Sydney	1	61.5
Gold Coast	2	27.2
Melbourne	3	25.1
Far North Queensland	4	17.8
Brisbane	5	17.3

Source: BTR 1996. (More than one region may be visited, hence percentages will be greater than 100).

As discussed above, wildlife viewing is an activity integrated with bushwalking, appreciation of flora, adventure, and so on. IVS results shown in Tables 6a-d indicate that in 1995, nature-based activities, including visits to zoos, wildlife parks, national parks and bushland were popular attractions. Although general visitation patterns to nature-based attractions are given, the data in Tables 6a-d do not indicate whether koalas were seen on the trip. The zoos and wildlife sanctuaries listed are known to have koalas on display. As noted above, only 6 per cent of National Parks are known to have koalas present.

Tourism Victoria (1994, cited in Blamey 1995) ranked the State’s tourism attractions and found that viewing the penguin parade at Phillip Island was the State’s seventh most popular tourist attraction (491,000 people) in 1993. Other popular wildlife attractions include Ballarat Wildlife Park (80,000 visitors, ranked 19th), the Koala Sanctuary at Phillip Island (74,000 visitors, ranked 21st). Other koala visitation figures include:

- Six per cent of overseas visitors (approximately 16,500 people) to the Australian Capital Territory went to Tidbinbilla Nature Reserve in 1995 (BTR 1996). It is not known how many of these people visited the koala enclosure.

- In 1996, approximately 5,300 Japanese tourists visited Australia on 'Save the Koala' tours organised by the Australian Koala Foundation, Trans-Global Travel of Sydney and the Japan Travel Bureau (D. Tabart *pers. comm*. 1996). The tour visits Lone Pine Koala Sanctuary (Brisbane), Dreamworld (Gold Coast) and the Australian Wildlife Park (Sydney). At the Australian Wildlife Park those on the tour participate in a tree planting ceremony.

- Approximately 200,000 international visitors will visit the Australian Wildlife Park in 1996 (Shears 1993).

- In 1994, approximately 161,000 international tourists (over 15 years of age) visited Lone Pine Sanctuary (BTR 1995).

2.7 Amounts spent on visiting various natural attractions

Vickerman (1988) states that wild fauna are particularly important ecotourism attractions in the USA and illustrates this by stating that some US$14 billion is spent annually on wildlife viewing, photography, feeding, and on associated travel. This is equivalent to the total amount international visitors spent on their trips to Australia in 1995 (BTR 1996). Of the total amount spent, $6.3 billion was spent in Australia and $7.8 billion was pre-paid.

Average expenditure in Australia was highest for Korean, Taiwanese and Indonesian non-package visitors, all at over $4000 each. Over all visitors, average trip expenditure was $177 per night. Excluding the cost of airfares and package tours, expenditure was $83 per night.

The IVS does not detail expenditure on nature-based attractions. Organised tours and entertainment are the most likely expenditure categories listed in the IVS to include zoo, sanctuary and park fees. In 1995, pre-paid expenditure on all organised tours was approximately $4 billion. Pre-paid entertainment totalled $1.8 million. Total expenditure in Australia on organised tours was approximately $240 million. Another $205.3 million was spent in Australia on entertainment.

Using the 1994 IVS, Blamey compiled a summary of per-trip expenditure for inbound tourists visiting National Parks or undertaking other nature-based activities – see Tables 7 and 8. The data only refer to total expenditure associated with visits to Australia, during which nature-based activities have been undertaken. Money spent on inclusive package tours and international airfares outside Australia are excluded.

Table 6a Foreign visitation to selected nature-based attractions*
New South Wales 1995 *where there is a reasonable expectation that koalas could be seen

Country of Residence	Visitors to Australia	Visitors to NSW	Visitors to NSW	Taronga Zoo	Other zoos, wildlife scantuaries	Coffs Harbour	Blue Mountains
	'000	'000	%		per cent		
New Zealand	490.7	280.4	56	9	10	3	12
Japan	737.9	557.2	75	15	41	-	30
United States	287.6	244.1	84	17	25	2	24
United Kingdom	335.4	232.6	69	15	28	6	34
Germany	119.8	94.8	78	18	29	10	35
Thailand	72.5	38.2	52	31	45	-	34
Korea	160.6	125.2	78	24	32	-	58
Indonesia	107.6	48.7	45	21	25	-	30
Scandinavia	47.6	39.3	81	22	31	7	32
Total 1995	3 422.0	2 309.0	67	16	28	3	31

Source: BTR, 1996.

Table 6b Foreign visitation to selected nature-based attractions*
Queensland 1995 *where there is a reasonable expectation that koalas could be seen

Country of Residence	Visitors to Australia	Visitors to QLD	Visitors to QLD	Gold Coast	Theme Parks	Hinterland Lamington
	'000	'000	%		per cent	
New Zealand	490.7	180.7	37	58	26	13
Japan	737.9	579.4	79	73	61	1
United States	287.6	132.9	47	23	3	6
United Kingdom	335.4	131.5	39	46	15	9
Germany	119.8	70.1	59	35	12	7
Thailand	72.5	16.5	23	84	74	1
Korea	160.6	108.9	68	91	60	3
Indonesia	107.6	24.7	23	77	67	-
Scandinavia	47.6	23.5	50	49	14	3
Total	3 422.0	1 746.6	51	64	44	5

Source: BTR, 1996.

Table 6c Foreign visitation to selected nature-based attractions*
Victoria 1995 *where there is a reasonable expectation that koalas could be seen

Country of Residence	Visitors to Australia	Visitors to VIC	Visitors to VIC	Phillip Island	Melbourne Zoo	Healesville Sanctuary
	'000	'000	%	per cent		
New Zealand	490.7	112.1	23	4	12	6
Japan	737.9	100.7	14	54	15	5
United States	287.6	114.7	40	26	13	12
United Kingdom	335.4	100.0	30	22	10	12
Germany	119.8	54.3	46	26	17	13
Thailand	72.5	72.1	31	45	39	10
Korea	160.6	160.4	7	27	25	10
Indonesia	107.6	30.5	28	28	20	5
Scandinavia	47.6	24.0	51	24	17	6
Total	3 422.0	922.6	27	29	15	8

Source: BTR, 1996

Table 6d Foreign visitation to selected nature-based attractions*
South Australia 1995 *where there is a reasonable expectation that koalas could be seen

Country of Residence	Visitors to Australia	Visitors to SA	Visitors to SA	Cleland Wildlife Park	Monarto Open Range Zoo	Kangaroo Island	National Parks
	'000	'000	%	per cent			
New Zealand	490.7	21.2	4	16	7	9	24
Japan	737.9	14.3	2	13	1	33	13
United States	287.6	31.6	11	19	4	24	18
United Kingdom	335.4	46.2	14	24	4	10	18
Germany	119.8	29.3	25	8	3	24	18
Thailand	72.5	1.5	2	8	-	19	19
Korea	160.6	4.3	3	5	2	-	18
Indonesia	107.6	3.1	3	11	-	24	15
Scandinavia	47.6	12.8	27	19	-	19	28
Total	3 422.0	250.9	7	15	4	18	18

Source: BTR, 1996.

In 1993, the average visitor expenditure by bushwalkers was $2824, 58 per cent higher than that for inbound tourists as a whole. Expenditure by National Park visitors was $2132, 19 per more than average visitor expenditure for all visitors.

In total, National Park visitors spent $2.6 billion on their trip to Australia in 1993 and bushwalkers spent approximately $1 billion. Wildflower viewing accounted for 5.6 per cent of total inbound visitor expenditure in 1993.

2.8 Existing evidence of the contribution of koalas to the tourism industry

Koala viewing is big business. Beeh (1994) describes it as ‘an industry of live koala cuddling, the scale of which remains unmatched by any other animal’. Sometimes referred to as the ‘koala industry’, funding for koala research, promotions and tourism ventures have become interlinked (Van Tiggelin 1994). However, given the data problems noted above, it is difficult to estimate from secondary data sources the precise contribution of koalas to the tourism industry.

Some indication of the importance of koalas to tourism compared to other animals can be gauged from the relative amount of funding directed at koala research and management policies. Recent initiatives include $2 million raised for koala research by the Australian Koala Foundation (one of Australia’s most well-funded private animal conservation groups). The Australian Nature Conservation Agency is contributing $100,000 to the National Koala Strategy and the Victorian Government has spent $317,000 over the last decade on translocating koalas to less-crowded habitats (Buchanan 1996). As Buchanan observes, ‘Even though many other species are endangered, the koala receives more funding than most of the 210 mammals, birds, amphibians or reptiles listed in the Federal Government’s ‘Endangered Species Protection Act (1992)’.

Holding a koala, purchasing ‘koalabilia’ and taking photographs are very important to tourists, especially Japanese tourists. As one tour guide said:

> Don’t ask me to explain this godlike worship Japanese people have for koalas. They buy books and videos and all kinds of koala souvenirs, turning their interest into a major industry (cited in Shears, 1993:58).

According to Buchanan (1996:2), the koala

> is an international celebrity that the Australian Tourist Commission counts as priceless in terms of tourism. So popular is the koala in Japan that the death of two koalas, Chewy and Pink, in 1985, led to widespread mourning. Zoos spend millions on koala enclosures. Osaka Zoo has 60,000 gum trees, 22 species in all, for its eight koalas who live in enclosures that are heated or air-conditioned and are under 24-hour surveillance.

Table 7 Average inbound visitor expenditure for visitors undertaking selected activities, 1993

Country of Residence	Bushwalking	National Park	Horse riding	Wildflower viewing	All Visitors
			$		
United States	2 483	2 098	3 932	2 334	2 004
Canada	2 580	2 211	3 292	2 279	2 284
UK and Ireland	2 873	2 129	3 668	2 754	1 915
Germany	3 288	2 997	3 677	3 723	2 776
Scandinavia	3 166	2 829	5 173	2 935	2 533
Switzerland	4 080	4 010	6 103	3 830	3 718
Other Europe	2 928	2 555	3 331	2 883	2 303
Japan	1 926	1 464	1 729	1 417	1 388
Other Asia	4 555	2 392	4 687	2 837	2 093
New Zealand	1 344	1 509	2 241	1 712	1 120
Other Countries	3 293	2 781	5 333	3 146	1 843
Total	2 824	2 132	3 698	2 668	1 788

Source: adapted from Blamey 1996

Table 8 Total inbound visitor expenditure for visitors undertaking selected activities, 1993

Country of Residence	Bushwalking	National Park	Horse riding	Wildflower viewing	All Visitors
			$m		
United States	155	324	32	43	535
Canada	48	70	8	16	109
UK and Ireland	199	379	51	69	578
Germany	143	210	18	39	284
Scandinavia	45	68	10	6	93
Switzerland	59	88	12	11	110
Other Europe	117	206	16	23	307
Japan	56	380	14	9	890
Other Asia	156	562	56	52	1 273
New Zealand	59	183	8	10	519
Other Countries	47	167	8	4	281
Total	1 084	2 637	232	281	4 978

Source: adapted from Blamey 1996

The manager of the Australian Wildlife Park estimates that koalas are the main animal attraction for the 1,000 tourists who enter the park each day. 'The first thing they ask is, "Where can we see the koalas?" The rest is just add-on.' (Butcher cited in Van Tiggelen 1994). Similarly, the Japanese-owned Lone Pine is also a major attraction widely known for koala handling it offers. Approximately 161,000 international tourists indicated that they visited Lone Pine in 1994 (BTR 1995). Once again, the majority of these tourists are seeking a koala handling experience.

The contribution of koalas to the tourism industry is such that the New South Wales tourism industry fears that State regulations to prevent koala handling may cause a market shift to Queensland. Deborah Tabart (1994, cited in Van Tiggelin) contends that more lucrative gate-takings are to be found in NSW wildlife establishments that currently permit koala handling than those establishments not offering koala handling.

3 The Visitors Survey

3.1 Basis of the survey

An essential component of this study was a major survey of overseas tourists departing Australia. Face-to-face interviews were undertaken early in 1997 at Sydney and Brisbane airports, the most popular ports of departure from Australia. Both an English language and Japanese language version of the questionnaire were used (Japanese are the main overseas visitors to Australia) with the Japanese tourists being interviewed by Japanese speaking interviewers (see the Appendix for the questionnaires).

This section of the study comprises a relatively detailed discussion of the survey methodology, with most attention given to the representativeness of the sample of tourists. The yardstick against which to judge this is the International Visitors Survey (IVS). The 1995 IVS, published in August 1996, is used for this purpose, with some reference to earlier IVS data.

A total of 418 interviews were conducted for this study, with 219 in Sydney and 209 in Brisbane. This sample size is quite adequate for the purposes of this analysis.

As stated above, Sydney and Brisbane were selected as the places to undertake the interviews. Sydney is Australia's most popular port of departure, with 48% of overseas tourists leaving from Sydney, followed by Brisbane with 19% of all departures from that city. These two cities thus account for approximately two-thirds of departures from Australia.

Sydney and Melbourne have high proportions of business, rather than holiday-maker, departures. Brisbane (and Cairns) have high proportion of holiday-maker arrivals and departures relative to business and other types of tourists. These facts were prime considerations in selecting Sydney and Brisbane as the places to undertake the interviews. Since the target group was holiday-makers (not business or other travellers) it was appropriate to interview a larger number of people in Brisbane than its relative proportion of departures might warrant.

However, by concentrating on tourists who are departing from (the most important) east coast cities, it is possible that there is a slight bias towards those who have seen koalas on their holiday. There are numerous opportunities to view koalas in places such as the Gold Coast, Brisbane, Cairns and Sydney. However, the results reported in the next chapter indicate that respondents to the survey saw koalas in all states and territories (except the Northern Territory), and in a wide range of settings.

3.2 The representativeness of the survey sample

As pointed out above, the representativeness of the sample of interviewees can be determined by comparing certain parameters with the IVS results (the IVS being

Australia's most authoritative official source of data on international visitors). The two crucial parameters are (i) the country of origin of visitors, and (ii) visitors' main reason to come to Australia. On both counts the survey sample compares favourably with the IVS data (see Table 9 and following discussion).

Table 9 Country of origin: Survey and IVS

Country	Survey %	IVS%
New Zealand	8	14
Japan	27	21
Hong Kong	1	4
Taiwan	2	4
Thailand	2	2
Korea	4	5
Malaysia	1	3
Singapore	4	5
Indonesia	1	4
Other Asia	2	3
USA	11	8
Canada	2	2
UK	12	9
Germany	5	3
Scandinavia	1	1
Other Europe	9	6
Other	9	6
Total	100	100

Notwithstanding the intention to obtain interviews in proportion to the IVS data, Table 9 indicates that some relatively small differences resulted. Of most significance is the over-representation of Japanese in the new survey (27% as opposed to 21%). In this context it should be noted that the IVS data are for 1995 and that the percentage of Japanese arrivals has ranged from 21% to 24% between 1991 and 1995. While Japanese visitors are marginally over-represented in the survey, there is under-representation (but not significantly) of visitors from New Zealand, and over-representation of visitors from the USA, the UK and 'Other Europe'. It should be noted that 'Other Europe' in the survey results includes a number of countries that are identified separately in the IVS.

It is not possible to draw any definite conclusions from the relatively slight differences between the survey sample and the IVS data. Taking a conservative approach it might be suggested that the larger proportion of Japanese visitors might bias the results towards tourists seeing koalas. This is because a significant proportion of Japanese have a short stay in Australia involving organised tours to see high-profile attractions. A visit to a wildlife sanctuary, theme park or zoo which exhibits koalas is likely to be one such high-profile attraction.

The other key parameter is the main reason to visit Australia. The standard reasons are: holiday, visit friends and/or relatives (VFR), business and other. The survey results are virtually the same as the IVS for the category ‘holiday’. In the former, 64% of interviewees were on holiday and for each year from 1992 to 1995 the IVS results are that over 60% are holiday-makers. The proportion of visitors on business travel are exactly the same for the survey and the IVS. The survey results differ from the IVS for the other two categories of visitors, with the former having less in the VFR category and more in the ‘other’.

There are two other parameters which are useful guides to the representativeness of the survey sample. One is the gender of the interviewee. The IVS reports a near equal split (51% female, 49% male). The survey sample under-represents women, at 44%. This occurred notwithstanding the interviewers’ instructions to approach males and females alternatively. In some cases when the woman in a family or group was approached, a male dominated in answering the questions. However, it is not expected that this small difference would bias the results.

The other parameter which is a potentially useful guide is the age of the respondent. Only in this instance is there a marked difference between the survey sample and IVS results. The interviewers were instructed to attempt to target respondents who were expected to fall into certain age groups. The groups were based on combining two of the standard IVS groups (for example, 20-24 years of age with 25-29 years of age).

This approach requires the interviewer to exercise judgement before approaching a potential respondent and an incorrect estimate that, say, a person is 31 not 29 will have obvious consequences for the proportions in each age group. The survey sample has a definite bias to younger visitors. The IVS results suggest that approximately two-thirds of visitors are 30 years of age or older whereas the survey sample has just under half of respondents in this category.

Other than incorrect estimates of age by the interviewers before the interview commenced, the time of year in which the interviews were conducted could have influenced the results. Notwithstanding the difference between the survey sample and the IVS there is no reason to suggest that this would cause a bias with regard to such variables as interest in Australian wildlife, a desire to see koalas, etc.

3.3 Some general information on visitors

The IVS reports the top 20 regions visited in Australia. Information was sought in the survey for this study on cities/locations visited by respondents. As a respondent can visit a number of places on his/her trip to Australia, a ranking of places is a more useful indicator than most other indicators. The rankings from the survey and from the

IVS (for 1995) are presented in Table 10. As some places are collapsed in the survey date (for example, 'other NSW' and 'other Qld') a strict comparison is not possible for all places.

Table 10 Rankings of major regions visited

Place	Rank – Survey	Rank – IVS
Sydney	1	1
Brisbane	2	5
Gold Coast	3	2
Melbourne	4	3
Other NSW	5	n.a.
Cairns (Far North Qld)	6	4
Sunshine Coast	7	14
Other Qld	8	n.a.
Canberra/ACT	9	7
Adelaide	10	8

While there is considerable similarity between both data sets, there are also differences. These result from the fact that the surveys were conducted in Sydney and Brisbane, and roughly in equal proportion.

The other general characteristic of visitors to Australia is the degree of satisfaction tourists obtain. The IVS reports detailed data, according to a large number of categories, such as visa requirements, service provided in hotels/restaurants, costs of various items. The survey only required respondents to answer one of four questions. The results are presented in Table 11.

Table 11 Satisfaction with visit

Satisfaction Level	Percentage
Fairly satisfied	24
Very satisfied	73
Not so satisfied	1
Very dissatisfied	1
Total	99[1]

Does not add to 100 due to rounding.

4 The Economic Contribution of Koalas to Tourism

4.1 Methods of estimating the economic contribution of koalas

This study applies two methods to estimate the economic contribution of koalas to the tourism industry and thus the Australian economy. The first method uses a ‘top down’ approach by identifying what proportion of overseas tourist expenditure can be attributed to koalas as a major attraction. The second method uses a ‘bottom up’ approach by adding together koala-related items of expenditure by overseas tourists. This includes visits to commercial attractions such as wildlife parks, the costs of tours, and expenditure on souvenirs and other goods featuring koalas (where the latter can be identified and dollar values ascertained).

Both approaches combine existing data from the International Visitor Survey (IVS) with data gathered from the survey of tourists specifically undertaken for this study. The first approach is an indirect one and, in part, relies on making some assumptions in allocating tourist expenditure to koala-related activities. Any such assumptions are identified in the report. The second approach also has some difficulties associated with it; for example, it relies on businesses providing koala experiences and/or products to be able to identify how much of their revenue came from overseas tourists as opposed to locals; and there is the further difficulty of obtaining commercial data from competitive businesses.

Using both of these approaches, this study provides an upper and lower bound of the economic impacts of koalas as an attraction for overseas visitors.

We employ the top down method first by drawing on the information revealed in the survey of departing tourists. It proceeds in three stages:

1. Report on the economic size of revenue from overseas tourism;

2. Use the survey results to estimate the share of the overseas tourist market that would be lost if there were no unique Australian wildlife, and koalas in particular; and

3. Estimate the revenue that can be attributed to the existence Australian wildlife, and koalas in particular.

4.2 The economic significance of overseas tourism

The value of tourism to the Australian economy is significant. In 1993-94, tourism contributed 6.6 per cent of the Gross Domestic Product. Of this, around 75 per cent was attributed to domestic tourism, and 25 per cent to tourism from overseas (DIST 1997a). In the same year, tourism accounted for around 6.9 per cent of employment in Australia, that is 535,600 persons (DIST 1997a). Tourism is often described as the largest industry in the Australian economy, although it is made up of a number of businesses in a number of different sectors of the economy, including transport, retail, entertainment and accommodation.

At 25 per cent of the total economic contribution, overseas tourism contributed around 1.65 per cent of GDP in 1993-94. This tourism supported 1.73 per cent of employment, providing direct employment for 133,900 people.

The number of overseas tourists to Australia has nearly tripled over the last decade. In 1996, the number of arrivals from overseas was 4.16 million (DIST 1997a). Arrivals since 1987 are illustrated in Figure 1. Japanese visitors made up 20 per cent of overseas tourists in 1996. Japan has been the largest single inbound market since 1990. While growth of the Japanese market has slowed, the number of Japanese visitors increased by 4 per cent from 1995 to 1996 (DIST 1997b).

In 1996, overseas tourism generated 'export earnings' of $16.1 billion (DIST 1997a). This was a 14.5 per cent increase over earnings in 1995. Tourism accounts for 14.5 per cent of Australia's export earnings. It is the largest export earning service industry, and also earns almost twice as much as coal exports (DIST 1997b).

An estimate of how much of the expenditure by overseas tourists can be attributed to the attraction of koalas is not available from the International Visitor Survey (IVS). Some indication of the interest in koalas can be found in the number of visitors to specific sites which feature koalas, however site specific data are only gathered for a limited number of tourist sites in each state. In 1992 for example, the IVS records that 35 per cent of visitors to New South Wales visited zoos, wildlife sanctuaries, aquariums and 14 per cent of visitors to Queensland visited Lone Pine koala sanctuary. However, a full picture of how many overseas tourists visited koala attractions cannot be gained from these statistics.

While it is not possible to turn to the official statistics to discover the importance of koalas as an attraction, it is possible to use these statistics to gain an indication of the importance of the natural environment as an attraction to inbound tourists. It is not suggested that this is a proxy for koalas. In 1993, international visitors were asked if they had visited 'National/State Parks, reserves, caves' and fifty percent replied 'yes' (Blamey 1995) indicating that natural environment attractions are indeed important[4].

4.3 Survey results

Information to make the estimate of how much of the overseas tourism expenditure can be attributed to koalas was sought in the survey of departing overseas tourists described in the previous section. The questionnaire was designed so as not to suggest to respondents that its focus was on koalas. Information was sought on what attracted tourists to Australia, and then information was sought on what visitors actually saw or did whilst in Australia.

4 The 1996 version of the IVS included questions on participation in 'ecotourism', but the results have not been released at the time of writing.

The survey asked respondents which, if any, of the factors listed in Table 12 particularly influenced their decision to come to Australia. Multiple responses were allowed. Unique Australian wildlife, an attraction that includes koalas, was nominated as an attraction by 22 per cent of respondents.

Table 12 Factors influencing decision to come to Australia

Factor	Percentage of respondents
Beach and aquatic activities	39
Visit Australian cities	36
Cultural and sporting events	22
Unique Australian wildlife	22
National parks and wilderness	21
Outback and rural areas	15
Aboriginal culture	9
Bushwalking	8
None of these	27

Respondents were then asked to nominate which wildlife, if any, they particularly wanted to see during their visit. Again, multiple responses were permitted. Koalas were the most frequently nominated species and were nominated by 72 per cent of respondents (Table 13). Koalas and kangaroos (nominated by 66 per cent of respondents) were by far the most frequently nominated Australian animals that overseas tourists wanted to see. Each of the other animals were nominated by fewer than 20 percent of respondents. These survey results provide strong confirmation of the iconic status of koalas and kangaroos for overseas visitors.

Table 13 Wildlife overseas visitors particularly wanted to see in Australia

Wildlife species	Percentage of respondents
Koalas	72
Kangaroos	66
Parrots	19
Emu	18
Platypus	18
Dingo	15
Other	12
None	13

The next question (Question 8 on the survey form) was of central importance to the present study. Respondents were asked:

> *If there were no unique wildlife, in Australia, would that have changed your decision to come to Australia?*

The majority of visitors indicated that they would still have come to Australia, but significantly, 11 per cent of visitors said they would *not* have come to Australia if there were no unique wildlife, of which koalas are the most important attraction (Table 14). Nine per cent indicated that they did not know whether the absence of unique wildlife would have changed their decision, so it is likely that some of these would also have changed their minds. Allocating on a proportional basis would see the 11 per cent of 'yes' responses rise to 12 per cent.

Table 14 Travel decision if no unique wildlife in Australia

Would decision change?	Percentage of respondents
No	80
Yes	11
Don't know	9

Respondents were also asked how important nature-based activities had been to their visit. A total of 67 per cent of respondents said that nature-based activities were either 'quite important' or 'very important' and only 12 per cent indicated that they were not important at all (Table 15). This percentage is consistent with Blamey's (1995) data which showed that about fifty percent had visited National Parks or the like. The concept of "nature-based activities" is broader than visits to National Parks, etc. and, hence, the higher percentage is not unexpected.

Table 15 Importance of nature-based activities

Importance of nature-based activities	Percentage of respondents
Very important	25
Quite important	42
Not very important	21
Not important at all	12

Respondents were then asked questions in which koalas were specifically mentioned. They were asked the following:

In making the decision to visit Australia, did you hope to see a koala?

Three quarters of the visitors questioned answered 'yes' and 22 per cent indicated 'no' (Table 16). Respondents were then asked if they actually saw a koala while in Australia. Seventy percent of respondents said that they had seen a koala, a significant proportion of visitors but less than the percentage that hoped to see a koala (Table 13). This percentage is double the percentage (reported above) of overseas visitors to NSW in 1992 who reported visiting zoos, wildlife sanctuaries and the such (places where koalas were likely to be seen by overseas tourists). There are a number of reasons why there is this difference. One is that the 1992 estimate does not include the relatively large number of overseas tourists who visit Queensland, in particular the Gold Coast, Brisbane, and Cairns/Port Douglas, all places where tours to wildlife parks featuring koalas are major attractions. The fact that the other States are not included in the 1992 estimate also distorts the picture from a national perspective. Another factor is that both the opportunities and the desire to experience Australian wildlife have expanded over the past five years. For these (and other reasons) the estimate in this study cannot be compared to any historical data such as that for NSW in 1992, and there is no reason to consider the estimate in this report as an over-estimate of overseas visitors who actually saw koalas on their trip to Australia.

Table 16 Respondents' desire to see a koala

Hoped to see a koala?	Percentage of respondents
Yes	75
No	22
Don't know	3

Table 17 Respondents who saw a koala in Australia

Did respondents see a koala?	
Yes	70
No	30
Don't know	0

Exploring further, respondents who had seen a koala were asked *where* they saw a koala. A total of 56 different locations known to have koalas were nominated (Table 18). A number of other locations were nominated but are excluded from the tables below as the names given by respondents for locations could not be reconciled with locations known to have koalas. Sites in all states and territories, except the Northern Territory, were nominated. Of these sites, 38 were zoos, wildlife parks or sanctuaries in reserves, and 18 sites were in the wild.

Table 18 Locations respondents reported they saw koalas: zoos, sanctuaries and wildlife parks

Place and state	
Adelaide Zoo, SA	Healsville Sanctuary, Vic
Airlie Beach Wildlife Park, Q	Hervey Bay wildlife Park, Q
Alma Park Zoo, Q	Hobart Zoo, Tas
Australian Wildlife Sanctuary or Tidbinbilla, ACT	Koala Park, Sydney, NSW
Australian Woolshed, Q	Koala Sanctuary, Port Macquarie, NSW
Australia’s Wonderland, NSW	Kouhana Koala Park, WA
Big Pineapple, Q	Kuranda Wildlife Park, Q
Billabong Sanctuary, Q	Lone Pine Sanctuary, Q
Bunya Park or Forest Glen Deer Park, Q	Melbourne Zoo, Vic
Cabarita Beach Banana Plantation, NSW	Nowra Zoo, NSW
Clealand Wildlife Park, SA	Perth Wildlife Park, WA
Queensland Reptile and Fauna Park, Q	Phillip Island Sanctuary, Vic
Currumbin Bird Sanctuary, Q	Seaworld, Q
Dreamworld, Q	Southbank, Q
Dubbo Western Plains Zoo, NSW	St George Wildlife Park, Q
Featherdale Wildlife Park, NSW	Taronga Zoo, NSW
Fleays Wildlife Park, Q	Waratah Park, NSW
Gosford Reptile Park, NSW	Wild World, Q
Habitat, Port Douglas, Q	Yanchep National Park Sanctuary, WA
Hartley’s Creek Crocodile Farm, Q	

Table 19 Locations respondents reported they saw koalas: in the wild

Locations	
near Carnarvon Gorge, Q	Hunter Valley, NSW
Blue Mountains , NSW	Kangaroo Island, SA
Boonah, Q	Lamington National Park, Q
Burpengary, Q	Lorne, Vic
Byron Bay, NSW	Magnetic Island, Q
Coffs Harbour, NSW	Montville, Q
Grampians National Park, Vic	Noosa National Park, Q
Gunnedah, NSW	Redland Bay, Q
Hornsby, NSW	Sydney Northern Beaches, NSW

4.4 The economic contribution of koalas: the ‘top-down’ method

The results of the survey indicate that a large majority of overseas visitors to Australia wanted to see a koala and in fact did see a koala during their visit. Koalas are ranked as the wildlife visitors most wanted to see. Koalas and kangaroos are far more popular than any other wildlife species. The results indicate that for around 75 per cent of overseas tourists, koalas played a part in their experience in visiting Australia, and possibly in their decision to come to Australia.

As there are a number of attractions that influence overseas tourists to come to Australia an assessment of the economic contribution of koalas must try to separate out the influences on tourists’ decisions. We need to identify the proportion of tourists who are particularly attracted by koalas, or those who would not have come to Australia if the country did not have these unique animals.

The high proportion of tourists who nominated koalas as the wildlife they most wanted to see (72 per cent) provides grounds for believing that a preference for ‘wildlife’ is closely associated with a preference to see koalas.

The proportion of overseas tourists who nominated unique Australian wildlife as an *important attraction* is 22 per cent. The proportion of overseas tourists who said they *would not have come to Australia* if there was no unique wildlife is 11 per cent (or 12 per cent if the ‘don’t know’ responses are allocated). This indicates that up to 22 per cent of all overseas tourism, and therefore that proportion of expenditure by tourists, is due to the attraction of wildlife. At the most conservative estimate, 11 per cent of all overseas tourists are specifically attracted by wildlife. While a preference to see koalas is a sub-set of a preference to view wildlife, the evidence suggests that koalas are particularly important in the decision to visit Australia rather than some other tourist destination.

The figures of 11 per cent and 22 per cent have been applied to the economic data available on expenditure by, and economic impact of, overseas tourists, with the aim of indicating the dollar significance of wildlife, and to derive an upper estimate of the economic importance of koalas.

This ‘top down’ approach assumes that *all* expenditure in Australia by the 22 per cent of tourists attracted by wildlife can be attributed to the attraction of wildlife. More conservatively, the top-down approach assumes that the 11 per cent of tourists who would not come to Australia if there were no wildlife is translated into an 11 per cent loss in tourism revenue. This gives a higher estimate than the ‘bottom up’ estimate generated in the next section.

Expenditure by overseas tourists is equated to export revenue by including all expenditure in Australia and on travel on Australian airlines. As reported above, this was $16.1 billion in 1996. Applying the proportions of 11 per cent and 22 per cent to this amount gives a range of $1.8 billion to $3.5 billion of expenditure by overseas tourists in Australia that can be attributed to the attraction of wildlife. It has been argued above that koalas are the major wildlife attraction. From that it is possible to suggest that the $1.8 billion per annum is an upper limit to economic importance of koalas to foreign tourists.

The expenditure by overseas tourists can be expressed in terms of other indicators of economic impact such as contribution to GDP, employment generated, and multiplier effects in the economy. It was noted above that the contribution of overseas tourism to GDP is around 1.65 per cent. Applying the proportions of 11 per cent and 22 per cent to this gives a range of 0.18 per cent to 0.36 per cent of GDP. To place these proportions in context, it should be recognised that the real annual growth in GDP in recent years has been around 1.5 to 2.5 per cent.

In terms of employment, overseas tourism as a whole contributes around 1.73 per cent of all employment. Eleven per cent to 22 per cent of this contributes 0.19 per cent to 0.38 per cent of employment in Australia. Thus 14,700 to 29,500 people are directly supported in employment due to the attraction of wildlife to overseas tourists. Much of this can be attributed to koalas. These direct economic impacts of expenditure by overseas tourists measured by contribution to GDP and employment are summarised in Table 20.

Table 20 Direct economic impacts of overseas tourism to Australia, and the proportion of tourism attracted to Australia by wildlife

	Attracted by wildlife		Total
	11% of overseas tourists	22% of overseas tourists	100% of overseas tourists
Expenditure	$1.8 billion	$3.5 billion	$16.1 billion
Contribution to GDP	0.18%	0.36%	1.65%
Employment (%)	0.19%	0.38%	1.73%
Employment (no.)	14,700	29,500	133,900

Direct plus indirect effects

Expenditure by tourists on the goods and services offered by businesses that make up the 'tourist industry' has flow-on effects to other parts of the economy which supply inputs, and as employees in these industries in turn spend their wages and salaries in the economy. These are termed indirect effects. 'Multipliers' can be estimated to describe the indirect effects, and the combined direct and indirect effects, of expenditure by tourists.

The Bureau of Tourism Research acknowledges that tourism has indirect effects in terms of output and employment supported in other industries that are in addition to the direct effects of expenditure by tourists, reported above (Skene 1996). The BTR has not in recent years calculated the indirect effects of tourism expenditure. However, an estimate of direct plus indirect effects of tourism in Australia has recently been published by the Tourism Council of Australia et al. (1997). This estimate employs a methodology used by the World Travel and Tourism Council. Selected direct plus indirect effects of all tourism in Australia are estimated at:

- 10.5 per cent of GDP;
- 11.5 per cent of employment, being nearly 1 million jobs, that is 1 in 9 jobs.

If overseas tourism contributes 25 per cent of this combined effect (the share of overseas tourism in total tourism in Australia), the contribution of overseas tourism is 2.6 per cent of GDP and 2.8 per cent of employment. The contribution of the 11 per cent to 22 per cent of overseas tourists attracted by wildlife therefore ranges from 0.28 per cent to 0.57 per cent of GDP and 0.32 to 0.63 per cent of employment.

Future growth

Overseas tourism has grown significantly in the last decade and is expected to continue to grow in the next decade. The Tourism Forecasting Council has made long range forecasts to the year 2005, suggesting that the number of international visitors, the number of international visitor-nights and expenditure will grow at the rates shown in Table 21.

Table 21 Long range forecasts of overseas visitors

	1995 actual	2005 forecast	Average annual growth rate
International visitors (million)	3.7	8.8	8.9%
International visitor-nights (million)	80	154	6.8%
Expenditure ($ billion)	13	31	8.9%

Sources: DIST 1996, 1997a, 1997b

An estimate of the potential economic contribution of the 11 per cent to 22 per cent of overseas tourists attracted by wildlife to the year 2000 has been made based on the Tourism Forecasting Council's projections. As shown in Table 22, the forecast expenditure by this group of overseas tourists may grow to a significant $2.5 billion to $5 billion by the year 2000.

Table 22 Forecast expenditure by overseas tourists to year 2000 ($ billion)

	1996	1997	1998	1999	2000
Total overseas tourists	16.1	17.5	19.1	20.8	22.6
11% of overseas tourists	1.8	1.9	2.1	2.3	2.5
22% of overseas tourists	3.5	3.9	4.2	4.6	5.0

4.5 Economic aspects of the 'koala industry'

In order to make a 'bottom-up' estimate of the contribution of koalas to tourism revenue in Australia, more detailed information on the economic aspects of the 'koala industry' was collected.

What might be described as the 'koala industry' includes a very wide range of services and products which either directly or indirectly rely on koalas. Direct reliance on koalas includes viewing koalas in wildlife parks, zoos and sanctuaries and photographs taken with a koala and transport of visitors to places to view koalas.

Indirect reliance on koalas covers everything from accommodation and food for visitors who are going to see koalas, to toys fashioned to look like koalas, through to using the image or name of the animal to sell products. The latter category includes biscuits, confectionary, a brand of tea and a brand of Australian grown rice (which uses as a drawcard the fact that a small percentage of its sales price is donated to the Australian Koala Foundation).

To determine the ‘economic value’ of the koala industry in its full breadth is impossible. This means that any attempt at a ‘bottom up’ description of the economic impact of koalas has to be confined to those goods and services which rely very significantly on koalas and for which it is possible within resource constraints to obtain useful data. That estimate is presented below.

In this section, certain data gathered on wildlife parks, sanctuaries and zoos (public and private) which feature koalas are described for the purposes of illustrating the expenditure and employment dependent on the attraction of koalas to people, with an emphasis on the activity supported by overseas tourists.

Wildlife parks, sanctuaries and zoos (public and private) which feature koalas are at the core of the ‘koala industry’. A sample of these attraction was surveyed for this study. While there is no ‘typical’ wildlife park, sanctuary or zoo, those with small numbers of koalas differ from those with larger numbers of koalas, mainly in the number of visitors, particularly overseas visitors, they attract. Broad descriptions of attractions with small and large numbers of koalas follow.

Small koala displays are an attraction to overseas visitors

A number of wildlife parks and a major city zoo which feature small numbers of koalas (less than 20) were surveyed. The number of koalas in these parks ranged from 3 to 18. While koalas are not the major attraction, they are an essential element of the location’s attraction to visitors.

All of these wildlife parks featured koalas in their advertising. The major city zoo in this group did not. Around half of the wildlife parks surveyed considered that koalas are one of the most prominent species visitors wish to see. The remainder of the wildlife parks and the city zoo considered that koalas are not especially prominent as an attraction.

Based on 1996 figures, the number of visitors per annum to the parks in this group, ranged from 80,000 to 1 million (the zoo). The number of overseas visitors ranged from around 40,000 to 75,000 per year. On average, overseas visitors made up 40% of visitors to these attractions, although the range was wide, from 10 per cent to 65 per cent.

There is significant employment in these parks and zoos. Five attractions surveyed together employed 278 staff full time and another 49 staff part time. Given the wide range of tourist operations in this group (from small to large, from wildlife parks to zoos), it would be misleading to average this employment over the five attractions. The staff to visitor ratio ranged from around one staff member for every 3000 visitors, to one staff member for every 6000 visitors.

Entry fees range from $11 to $16 per adult. These were actual fees paid, taking into account discounts for group tours. Entry fees paid by adults from overseas at four of the attractions surveyed are over $500,000 at each attraction.

About half of these wildlife parks provide an opportunity for visitors to be photographed with a koala. These wildlife parks are in Queensland, where legislation permits visitors to hold koalas. The photographs are sold, earning additional revenue for the attraction. The photographs are priced at from $7 to $8. Survey respondents did not provide sufficient information to report income from photographs. It was reported that in one establishment, up to 85 per cent of photographs are purchased by overseas tourists, but in another establishment the proportion of photographs purchased by overseas tourists is only 10 per cent.

All the wildlife parks and the zoo sell souvenirs with koala motifs and koala toys. Survey respondents were not able to say what percentage of visitors from overseas purchase koala souvenirs or what the expenditure by overseas visitors was on these items.

Large koala displays are an even larger attraction

There are a small number of wildlife parks in Australia which feature larger numbers of koalas. Some of these are associated with theme parks which feature a wide range of attractions. The survey conducted of these operations collected information on the attraction as a whole and identified the proportion of patrons who visit the koala and wildlife exhibits.

The number of koalas at these parks in 1997 ranged from 47 to 130. A number of the parks reported they had around 10 per cent more koalas in 1997 than they kept in 1996.

Half of these parks with larger numbers of koalas are solely wildlife parks and half have koala displays associated with other attractions. The wildlife parks considered that koalas are one of their most prominent species. The parks with a broader range of attractions (‘theme parks’) considered that features other than wildlife are the main attraction, however koalas are one of the most prominent wildlife attractions. All of these parks feature koalas in their advertising.

The total number of visitors to each park in 1996 ranged from 150,000 to one million. The number of visitors from overseas is estimated at around 120,000 to over 300,000. The proportion of visitors who are from overseas ranged from 33 per cent to 95 per cent of the total for that park. The proportion of visitors from overseas to the attractions, who visited the koala displays, is estimated to be 100 per cent, or very near to it.

The visitor to staff ratio varies quite widely. Those parks which were solely wildlife parks had similar ratios to those of smaller parks. The theme parks had a ratio of around one staff member to 1500 visitors. Together, three of the parks surveyed employ 324 full time and 354 part time staff in their total operations. The staff numbers dedicated to the wildlife displays in these three parks are estimated at over 100 full time staff.

Entry fees for adults range from $6 to $12.50 for entry to wildlife displays. Theme park entry fees were higher for an all inclusive entry. Information on fees charged of group tours which visit the koala displays only was not available, but the fees are assumed to be in the range reported above. Based on that assumption, total revenue raised by entry fees, attributable to wildlife, was significant: around $1.5 million each for two of the parks surveyed, and around $3 million each for the other two parks.

All the parks surveyed offer photographs with koalas. The cost of photos at the majority of parks is $6 to $8, but is $13 at one park. The proportion of all photographs that are purchased by overseas tourists ranges from 75 per cent to 99 per cent. None of the parks reported annual income earned from photographs.

Souvenirs featuring koala motifs are on sale at all the parks surveyed. Estimates of the percentage of overseas tourists who purchase a koala item ranged between 20 per cent and 75 per cent. None of the parks reported the amount of income earned from souvenirs.

4.6 Direct expenditure on experiencing koalas: the ‘bottom up’ method

The second approach to estimating the economic impact of the attraction of koalas to overseas tourists involves adding together all the various expenditure items associated with the actual experience of koalas whilst in Australia. In this exercise, the expenditure associated with a day trip to view koalas is included. This is estimated for the approximately three million overseas tourists who saw a koala whilst visiting Australia. A conservative approach is taken here in respect to every expenditure item included so the results from this assessment will be a minimum estimate of expenditure incurred in seeing koalas.

The survey of overseas tourists found that around 70 per cent of visitors had seen a koala whilst in Australia. This percentage of all overseas tourists equates to nearly 3 million people. Around 75 per cent of these visitors had seen koalas in zoos, wildlife parks or sanctuaries and 25 per cent had seen koalas in the wild.

An estimate of direct expenditure associated with viewing koalas is based on the costs of the components of a typical day’s activity on the day that visitors see koalas. Visits to zoos, wildlife parks and sanctuaries generally last no more than half a day and are often one of a number of activities undertaken during a day. Hence a proportioning of expenditure on that day is necessary so as to not overestimate the economic significance of koalas.

The elements of expenditure include some or all of the following:

- access to a zoo, wildlife park or sanctuary, or place to see koalas in the wild, via a tour or an independent visit using a hire car or the car of a friend or relative, or other transport;
- entry to the zoo, wildlife park or sanctuary where koalas are viewed;
- a photograph taken holding or standing near a koala;
- purchase of souvenirs featuring koalas;
- accommodation and associated expenses for one night; and
- a proportion of travel costs to Australia.

Overseas visitors use a variety of modes of access to view koalas in zoos, wildlife parks and sanctuaries or in the wild. Around 40 per cent of all overseas tourists to Australia travel on group or inclusive package tours (BTR 1996). Typically, these tours will visit a zoo, wildlife park or sanctuary on one day of the tour; other attractions will also be visited on that day. For people who visit Australia independently, there are several options for them to travel to locations to view koalas. For example, visitors may join local tours, which run over several days or weeks, and include one or more visits to a location where koalas may be viewed. In major tourist destinations (capital cities, Cairns, the Gold Coast) there are also day and half-day commercial tours to zoos, wildlife parks and sanctuaries. These are very popular with tourists. Overseas tourists may visit koala locations in hire cars, cars of friends or relatives or via public transport. The cost of access to the locations where koalas are viewed will therefore vary with the type of transport used. The proportions of the 3 million visitors who saw koalas via the different types of access are not known. As a visit to see koalas is generally only a half-day activity, for this study, 50 per cent of expenditure on transport during the day is assigned to the cost of seeing koalas.

An average cost of $30 for transport is used here (but for some visitors the half-day cost could be as low as $5 and for others, as high as $60). This cost is meant to cover a half-day visit to a park featuring koalas and other wildlife, or a site specifically to see koalas in the wild. The total expenditure on access for 3 million visitors is therefore estimated at $90 million.

According to the survey conducted for this study, 75 per cent of those overseas tourists who had seen koalas, had seen them in a zoo, wildlife park or sanctuary. This proportion is used here, giving approximately 2,250,000 overseas tourists seeing koalas in commercial sites and 750,000 overseas tourists seeing them in the wild. Entry fees to commercial sites were collected in a survey of zoos, wildlife parks and sanctuaries, and are on average approximately $10 per adult. The entry fees paid by overseas tourists are therefore in the order of $22.5 million.

Photographs with koalas are popular, but are not offered in all zoos, wildlife parks and sanctuaries. Data from a survey of a sample of industry participants suggest that half of overseas tourists visiting such koala attractions purchase a photograph and that the average cost of a photograph is around $8. Total expenditure on photographs is estimated at around $9 million.

All commercial attractions surveyed for this study had souvenir shops, and all sold merchandise with koala motifs, including toy koalas. A medium sized toy koala or sweatshirt sells for around $40. Respondents to the survey of a sample of industry participants did not provide information on souvenir shop sales, claiming commercial confidentiality. For the purposes of this study a conservative estimate is made – that the 2,250,000 visitors to zoos, wildlife parks and sanctuaries spent $50 on koala souvenirs. A total of $112.5 million has been estimated. To place this in some context, average expenditure by overseas tourists to Australia in 1995 on items to take home, as reported in the International Visitor Survey, was $491 (BTR 1996); that is, about one tenth of expenditure on gifts, clothes, souvenirs etc is related in some way to koalas. The connection may be no more than a koala motif or image on a product.

On average, visitors to Australia stay 23 nights (BTR 1996). For multi-purpose trips (in the present case viewing koalas is one of many reasons for visiting Australia) it is necessary to allocate expenditure on accommodation to the various purposes of the visit. Given that at the minimum a tour to a commercial site will take the best part of half a day, accommodation for at least one night in Australia is required if visitors are to see koalas. According to the International Visitor Survey, the average cost per visitor-day for accommodation (excluding transport, entertainment, shopping etc) is $34. While this may seem low, it includes visitors staying with friends and relatives (who pay nothing for accommodation), back-packers who stay in inexpensive accommodation and tour discounts and shared accommodation. Total expenditure for 3 million visitor-nights is thus estimated at $150 million.

A summary of the estimates for the elements of expenditure and the estimated total is shown in Table 23. It should be noted that no account is taken of expenditure to travel to Australia (which may be paid to Australian airlines) so that the total underestimates koala-related spending.

Table 23 Estimated expenditure on viewing koalas

Expenditure item	Estimated expenditure ($ million)
Transport to koala sites	90.0
Entry fees to attractions	22.5
Photographs with koalas	9.0
Koala souvenirs	112.5
Accommodation	102.0
TOTAL	**336.0**

The results from this assessment show a significant multi-million dollar expenditure directly associated with visiting koalas at commercial sites and sanctuaries or in the wild. This is considered a conservative estimate of the direct expenditure. The amount of $336 million is a sub-set of the total expenditure in Australia by tourists from overseas, and represents over 2.0 per cent of the $16.1 billion expenditure. If the flow-on (indirect) effects are added to the direct expenditure of $336 million, the total is in the order of $500 million.

This estimate of over 2.0 per cent is considerably smaller than that made in the previous section which was based on the significance of koalas in influencing the decision to come to Australia. The analysis suggests that the significance of koalas goes beyond the direct economic impact of the activities of overseas tourists in viewing koalas once the visitors are here in Australia. The economic impact of koalas in attracting visitors to Australia has an even greater economic impact.

4.7 Summary of estimates of economic contribution of koalas

Two approaches have been used to estimate the economic significance of koalas to overseas tourism. For the reasons discussed previously, neither approach gives a precise estimate. The 'top down' method results in an upper estimate of nearly $2 billion per year. As this is calculated by estimating the number of tourists who would not come to Australia if there were no unique wildlife, and koalas are only one form of Australian wildlife, this is an overestimate. However, the survey makes it clear that koalas are the animal most in demand by overseas tourists and, along with kangaroos, are the overwhelmingly dominant attraction.

The 'bottom up' method indicated a lower bound estimate of $336 million. This is clearly an underestimate, partly because it does not account for indirect economic impacts. It is approximately one fifth of the upper limit. The range of expenditure estimated can be translated into proportions of GDP and national employment as shown on Table 24.[5] Forecasts of expenditure associated with the attraction of koalas by the year 2000 range from over $450 million to $2.5 billion, see Table 25.

In summary, the best estimate of the economic contribution to the Australian overseas tourism industry is in the order of $1.1 billion per annum and around 9,000 jobs. These are expected to increase significantly over the next decade.

[5] Based on total overseas tourist expenditure of $16.1 billion, contributing 1.65 per cent of total GDP, and 1.73 per cent of total employment (numbering 133,900 jobs).

Table 24 Summary of economic contribution of koalas

	Lower bound	Upper bound	Best estimate
	2.0% of expenditure by overseas tourists	11% of overseas tourists deterred	
Expenditure	336 million	$1.8 billion	$1.1 billion
Contribution to GDP	0.03%	0.18%	
Employment, percentage	0.03%	0.19%	
Employment, people	2,678	14,700	9,000

Table 25 Forecast expenditure by overseas tourists and those attracted by koalas to year 2000 ($ million)

	1996	1997	1998	1999	2000
Total overseas tourists	16,100	17,500	19,100	20,800	22,600
11 % of overseas tourists	1,800	1,900	2,100	2,300	2,500
2 % of overseas tourist expenditure	336	350	382	416	452

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