



**Principles for sustainable wildlife tourism,
with particular reference to
dolphin-based boat tours
in Port Phillip Bay**

**Report to Victorian
Department of Natural
Resources and Environment**

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1. INTRODUCTION

This report summarises key findings and recommendations for ensuring that tourism based on wildlife is sustainable, with particular reference to Port Phillip Bay dolphin-based boat tours. It is designed to provide a broader context to the related report focusing on dolphin management issues by Hale (2002), and in particular to expand on principles relating to the role of tourism operators in sustainable wildlife tourism.

The key references consulted or cited are listed below, and are recommended for further information. The report also draws generally on experience gained from four years of multi-disciplinary research on wildlife tourism conducted by the Co-operative Research Centre for Sustainable Tourism.

Generally for any form of tourism based on viewing of free-ranging animals to be sustainable (i.e. persist over the long term), it must meet the following criteria:

- Customers must be satisfied with their experiences.
- Operators must make sufficient profits.
- The activities must not cause the wildlife population(s) to decline, or to become less viewable over time.
- If the population may be declining due to other causes, the activities should contribute positively to its conservation.

In the medium to long-term, satisfied customers and persistence of wildlife populations are likely to be required for operator profitability. However there have been cases of wildlife tourism where the needs of operators to make profits in the short-term have led to practices that are environmentally unsustainable. Regulatory measures are thus generally advisable to help prevent such practices. At the same time, steps need to be taken to maximise the actual and perceived links between the adoption of minimal impact practices by operators and long-term sustainability of their businesses, thus reducing the reliance on regulation. This is particularly important in cases where it is difficult to ensure effective enforcement of regulations, as may be the case with dolphin tours in Port Phillip Bay.

The following sections expand on each of the key issues involved in ensuring that wildlife tourism is sustainable.

2. MINIMAL IMPACT PRACTICES

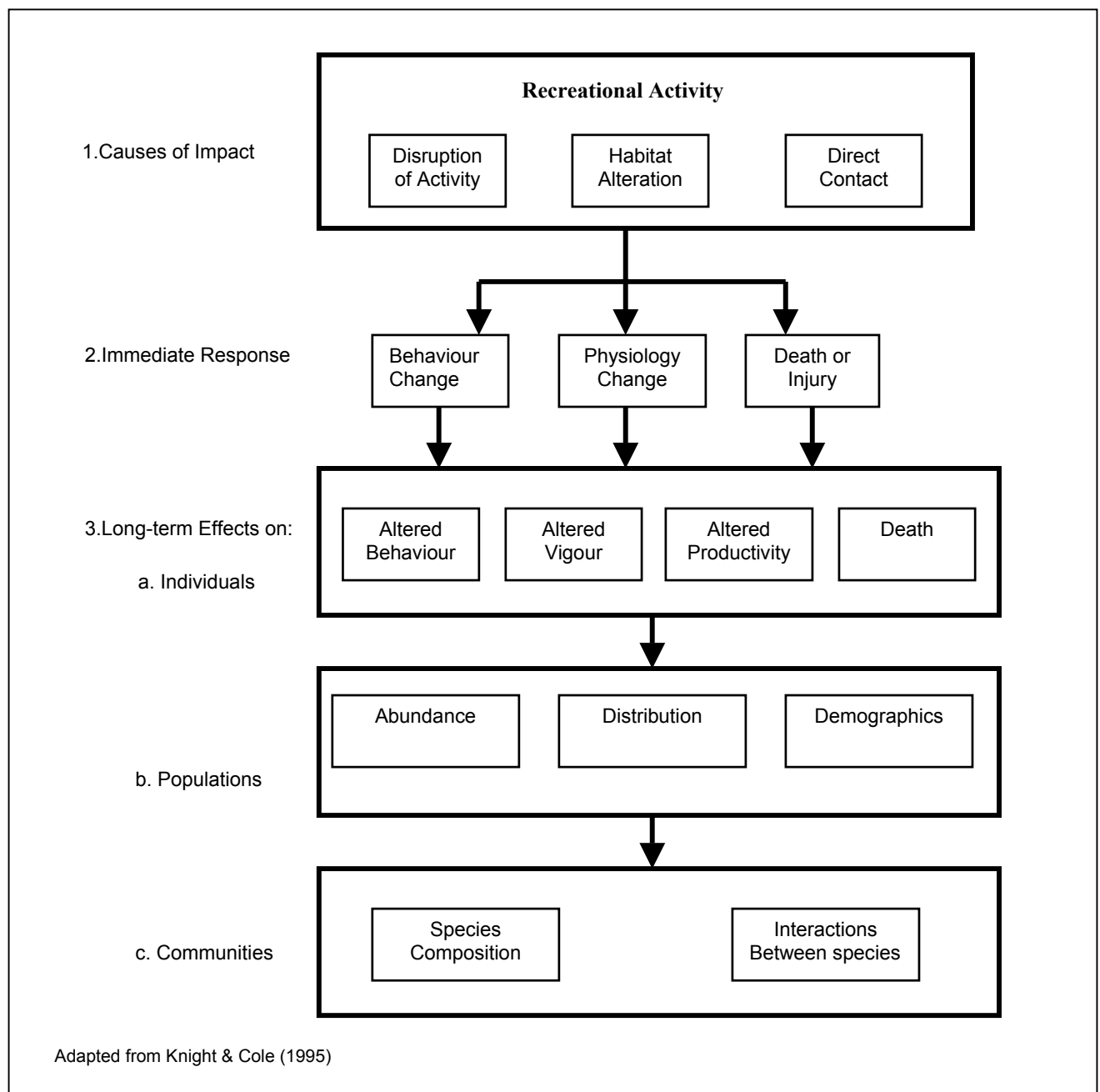
In order to ensure that wildlife populations persist, and that animals can continue to be approached for viewing, wildlife tourism operators generally need to adhere to certain minimal impact practices. The aim of these practices should be to ensure that as a result of tourism activities, the population does not experience: increased mortality, reduced reproductive success, emigration from the area (all contributing to a population decline in the area), or increased avoidance of tourist boats. The most appropriate minimal impact practices will vary greatly depending on the species concerned and the form of tourism.

In the case of boat-based tourism involving cetaceans, minimal impact practices that are currently recommended under legislation or guidelines mostly relate to how vessels should be managed in the vicinity of these animals. These include restrictions regarding: approach distances, vessel speed, vessel orientation in relation to animals, use of gears, number of vessels within a certain distance of the animals and the amount of time that they spend there. They may also include restrictions on the types of animals that should be approached closely (e.g. foetal-fold calves). In the case of swim tours (where these are allowed under

legislation¹), they may also include restrictions on the number or behaviour of visitors in the water in proximity of dolphins. Hale (2002) provides information on the regulatory environment that currently applies to interactions with the dolphins of Port Phillip Bay.

Unfortunately, with most wildlife, including dolphins, there has been insufficient research to determine what type or level of disturbance will lead to population declines. However, population-level changes are typically mediated by behavioural or physiological changes at the level of individual dolphins (see Fig. 1), so changes at the individual level can in principle be used as indicators of likely population-level effects. Further, behavioural indicators are often practical to use in guidelines and regulations because they can be directly observed during encounters between tourists and animals.

Figure 1: A conceptual model of the responses of wildlife to disturbance



¹ In Queensland, for example, the Nature Conservation Plan 1997 specifies such large approach distances between swimmers and cetaceans that swim tours are effectively prohibited.

However, in wildlife tourism it is often difficult to determine what level of behavioural changes in individuals constitutes a problem in terms of ultimate population decline. This problem applies in the case of the dolphins of Port Phillip Bay. In the face of such uncertainty, the "precautionary principle" should be adopted in situations where (i) a population decline may be difficult or impossible to reverse by the time it is reliably detected; (ii) a population is small and geographically restricted, (iii) a species is of particular conservation and/or public concern. Again, these conditions apply to the dolphins of Port Phillip Bay. The precautionary principle states that policy decisions should err on the side of caution in the face of uncertainty (c.f. Hare *et al.* 1990). Thus, although it has not been scientifically demonstrated that the behavioural changes recorded in response to activities of dolphin tour vessels will lead to population decline, there are sound reasons to be concerned that this may be the case (see Hale 2002). Therefore activities that cause such changes should be avoided. Further, it is clear that certain forms of boat activity lead to avoidance responses by dolphins (Hale 2002), and so even if these activities did not cause population-level problems, they would probably cause progressive reductions in viewability. At the same time, because of the lack of understanding of any link between dolphin behaviour and population decline, monitoring of population size should also occur. Hale (2002) provides specific recommendations for suitable regulations for managing interactions between vessels and dolphins in Port Phillip Bay.

Perhaps the main reason why tourism operators sometimes fail to comply with minimal impact guidelines is that they perceive that compliance will lead to reduced customer satisfaction. However, there is some evidence that visitors can be supportive of restrictions to their access to wildlife, especially if supported by a good interpretation program (see section 5 below).

3. ENSURING VISITOR SATISFACTION

For any product, the key to visitor satisfaction is whether the customer perceives that they have had a "quality" experience - by whatever means they assess that quality. Also important may be perceived "value for money" of the experience (the product of price and perceived quality). It is important to design the experience so that a perception of quality is maintained even if a certain unreliable element of the experience is missing - as may often be the case in some forms of wildlife tourism. Irrespective of how well a tour is designed, operators need to ensure they have feedback mechanisms to check levels of customer satisfaction with the various elements of their experience.

In the largest study of wildlife tourism visitors to date in Australia (Moscardo and Saltzer 2002), the factors most frequently listed by visitors as important were "seeing wildlife in their natural environment", "seeing rare, unique and unusual wildlife", and "seeing wildlife behaving naturally". The factors least frequently listed as important were "being able to touch or handle wildlife" and "wildlife are easy to see". "Availability of knowledgeable guides/staff", and "interesting information about wildlife" were ranked as intermediate in importance. However, the two most important factors positively influencing visitor satisfaction were found to be the amount visitors believed they had learnt about wildlife and how natural they believed their encounter was.

A few studies have specifically examined factors relating to visitor satisfaction with cetacean watching (mainly involving whales). In an Australian study, Foxlee (1999) found that the factors contributing to visitor satisfaction, in order of importance were: numbers of whales seen, distance from whales, whale activity, information about whales, information available about other marine life, and style in which the information was presented. These results are generally consistent with those of studies overseas.

The implications of this research are that:

- For most visitors, creating a perception of a “natural” experience is likely to have positive effects on customer satisfaction.
- Reasonable numbers of close encounters with whales doing interesting things tend to be important to satisfaction with existing tours, but it should be borne in mind that these tours tend to focus on whale-watching as the principal and sometimes only focus (see (b) below).
- Providing good quality interpretation is likely to have a significant positive impact on customer satisfaction.

(a) Product quality – “real” and perceived

In dolphin-based boat tours, key elements of the experience that will affect customer perceptions of quality are likely to be:

- Quality of the wildlife encounters (and/or other experiences).
- Quality of the facilities and services e.g. seating, protection from weather, toilets, refreshments.
- Quality of interpretation.
- Quality of staff interacting with visitors (e.g. friendliness, efficiency).
- Quality of environmental management practices (for the growing numbers of tourists with environmental concerns, assuming they are made aware of the use of these practices on the vessel).

No research has been conducted specifically on what visitors perceive are the elements of a high quality dolphin encounter. Factors that have been found to influence satisfaction (i.e. proximity, number seen and activities displayed) provide some indication. An international trend towards an increase in level of sophistication and in use of technology in wildlife tourism seems to signify another component. For example at Inverness, tourists monitor dolphin vocalisations through use of underwater microphones. Operators should consider imaginative and innovative ways to offer stimulating and new experiences.

Operators should be encouraged by various means to offer high standards of product quality. These means can include: best practice codes and guidelines (e.g. TCA/CRC 1999), use of accreditation systems (e.g. Nature and Ecotourism Accreditation Program, Nature and Ecotour Guide Certification Program, IATG/ITOA Guide Qualification Program), inclusion of quality assessment in licensing requirements, and creating awards or other rewards for high quality. As far as possible the significance of accreditation and awards should be publicised such that they are linked to “quality” in the customer’s mind, thus creating a direct incentive for operators to enhance quality.

In the case of dolphin-based boat tours, operators should be encouraged to achieve high standards in each of the following areas:

- General tourism performance.
- Performance in environmental management, including practices to minimise negative effects on the natural environment in general, and on dolphins specifically.
- Interpretation skills – including both wildlife/ environmental knowledge and ability to apply good interpretive practices.

As well as being influenced by the actual attributes of their experience, customers’ perceptions of quality will be influenced by their prior expectations and any communication

that influences their perceptions of quality. Thus interpretation and marketing can be used to (i) influence expectations, and (ii) turn the application of minimal impact practices into a positive rather than a negative in terms of visitor satisfaction. This is explored further in section 5.

(b) Product diversity

In cases where a key element of the tourism experience cannot be guaranteed (such as in the case of close encounters with dolphins), it is important for customer satisfaction to ensure that other quality experiences are available as alternatives. In particular, dolphin tour operators should consider ways to provide a “whole of bay experience”, incorporating interesting elements of the environment other than dolphins. Particularly in combination with effective interpretation and possibly substitution experiences (see section 5), this can ensure that even if adoption of minimal impact practices reduces the number of close encounters with dolphins, customer satisfaction is maintained.

(c) Understanding visitor demand and responses

Understanding the customers and their responses to their experiences is critical to maintenance – and hopefully improvement of – customer satisfaction. Research clearly shows that customers vary greatly in their expectations, attitudes and responses, and therefore operators should try to understand this diversity and try to respond to it where feasible. One important implication is that as far as possible operators should cater for different customer segments – such as by providing two or three levels of interpretation depending on the amount of detail that people require. However research shows that the majority of wildlife tourism visitors have a general rather than specialised interest in wildlife, therefore the main emphasis should be to provide experiences and interpretation suitable to this market segment.

There is however no substitute to on-site monitoring of customer satisfaction by operators. This can be informal (by observing and chatting to customers) and/or formal (e.g. in the form of written surveys), and should investigate customers’ responses to the various elements of the particular experience provided. An operator who is keen to maximise customer satisfaction (within the various constraints under which he or she operates) will frequently adjust elements of the experience in response to this feedback.

4. ONGOING PROFITABILITY

Profitability of any tour business is clearly dependent mainly on: costs of operation, number of customers, price set for the tour and income from other revenue-raising activities (such as merchandising, sale of refreshments, photography services).

Many of the recommendations for successful financial operation of dolphin-based boat tours are the same as those that apply to small tourism businesses in general, and will not be discussed here. However it is worth stressing the links with the components we have already discussed. The number of customers that are attracted to go on tours will depend to at least some extent on customer satisfaction. How strong this link is will depend largely on the extent to which word-of-mouth operates in the market and the level of repeat business. Similarly the price that can be charged will be linked to the perceived quality of the product. Finally, in the case of wildlife tourism, the ability to continue to attract customers is ultimately dependent on the persistence of the wildlife populations.

Preliminary research indicates that the following obstacles to business financial success are common to many small wildlife tourism businesses in Australia:

- Many problems in relation to business management occur that also frequently apply to small businesses in general.
- Lack of effective marketing has been identified as the major obstacle.
- Tours are often under-priced (however, operators should strive to ensure product quality is high so that they can justify charging high prices).
- Operators do not take good advantage of opportunities to raise revenue through supplementary activities.

Operators and support agencies should therefore focus on improving skills in these areas in order to improve business profitability.

5. EFFECTIVE INTERPRETATION (including messages communicated in marketing)

Interpretation can be defined as “the process of stimulating and encouraging an appreciation of our natural and cultural heritage and of communicating nature conservation ideals and practices” (Department of Environment, Queensland 1996). It involves “translating the technical language of a natural science or related field into terms and ideas that people who aren't scientists can readily understand”, in a way that is entertaining and interesting (Ham 1992). Interpretation is often confused with information by wildlife tourism operators. It involves more than just simply presenting customers with facts. What is at least equally important is the way the information is communicated.

Effective interpretation is vital to sustainable wildlife tourism because it can:

- 1) Lead directly to an increase in customer satisfaction
 - by providing interpretive content, which is in itself interesting and enjoyable and also effectively supplements, the physical experience.
 - by encouraging a feeling of wonder and excitement when wildlife is encountered.
- 2) Maintain or even enhance satisfaction when minimal impact practices are used
 - by providing “substitute” experiences (e.g. video, interesting discussion) when the “real” experience is not available.
 - by explaining to customers why minimal impact practices are necessary, and winning their support for these practices even if it means less intimate encounters with wildlife (turning this from a potential “negative” into a “positive”, by showing that operator and the customers are being environmentally responsible).
 - by influencing customer expectations, so they know that they will be especially privileged if they have a close encounter with dolphins (reducing disappointment if this does not happen, and enhancing excitement if they do).
- 3) Lead to enhanced support for conservation of the wildlife that is being viewed
 - The few studies that have been done have shown that seeing animals in combination with interpretation (that was designed to raise conservation awareness) is associated with increased reported support by visitors for conservation of those species. Given the presence of other threats to the dolphins in Port Phillip Bay, this could translate into political support for measures to help protect the dolphins. Operators may also be able to encourage visitors to become actively involved in dolphin conservation or to make donations for this cause.

The use of interpretation to manage expectations should extend to use in marketing. Tourism research has shown that customer satisfaction is influenced to a large extent by whether the experience matches prior expectations. It is thus important that the messages (whether in images, spoken, or written) raise realistic expectations of the dolphin tour experience, especially in relation to any unpredictability of sightings.

While there has been no systematic research to assess the quality of interpretation in Australian wildlife tourism, the consensus among a range of stakeholders involved in a major review was that it is often poor and generally needs improvement. Given the multiple sustainability objectives that can be addressed through effective interpretation, taking steps to ensure that the quality of interpretation by dolphin tour operators is high should be a priority.

While being a good interpreter is a complex task, some of the key principles are summarised in Box 1. Operators and guides should be encouraged to read further on this topic and undergo training where appropriate.

Box 1. Guidelines for effective interpretation

In order for interpretation to be effective in enhancing customer satisfaction and in meeting its educational objectives, the acronym “EROTIC” is useful:

Enjoyable

Interpretation should be fun – for the audience and the guide. This will not only raise customer satisfaction, but it will help people to learn. Do not lecture. Where appropriate use stories, jokes, interesting facts, and audience participation to ensure your presentation is entertaining. Encourage people to use multiple senses.

Relevant

Make sure the interpretive content is relevant to the audience’s own experience. It should be tailored to your customers and your situation. Where feasible, try to find out as much as you can about the interests of your customers before you start. Make the presentation personal so the audience can relate the ideas to their own lives.

Organised

Interpretation should be structured in a logical way, with components delivered at different phases during the trip linked. There should be an introduction at the start, and a conclusion at the end, preferably including “take home messages”.

Thematic

Follow one main theme - or central idea - throughout the presentation (e.g. "dolphins are fascinating creatures that we should all respect and protect"). Using themes and messages helps to avoid the monotony of boring technical information and can help the audience to remember more of your presentation.

Informative

Ensure your information is carefully and thoroughly researched. Strive for accuracy, and interesting information. Include information and explanations needed to help the audience to understand and care about conservation issues, and to support the minimal impact practices your company employs.

Challenging

Make the customers think, and keep them involved (as far as is practicable given the setting).

In order to achieve all of this, it is important to carry out thorough planning of your interpretive program, building in flexibility. It should be planned to meet clear objectives. For example, some simple objectives for interpretation on dolphin tour boats could be:

1. To increase customer enjoyment
2. To demonstrate that we are environmentally responsible in our use of minimal impact practices
3. To raise customer awareness of dolphin conservation issues, and encourage them to contribute to dolphin conservation after they leave.

To ensure planning is done effectively, and that all staff is fully conversant with what is required, there should be a documented interpretation plan.

On dolphin-based boat tours, interpretation can be in the form of talks, displays (on noticeboards, or custom-made displays), brochures, slide shows or videos, a "library", or an interactive computer website or CD Rom. Materials that could be included in displays or libraries include books, maps, photographs, newspaper articles. All materials should be presented attractively, simply and professionally.

6. CONCLUSIONS

In general, in order to achieve sustainability, it is recommended that operators of dolphin-related boat tours adopt the following measures, preferably in combination:

- Recognise the medium to long-term benefits to their businesses of minimal impact practices that will ensure the persistence of the dolphin population.
- Voluntarily adopt such practices, and use this as a selling point for their businesses.
- In co-operation with DNRE, become directly involved in management and monitoring of dolphins and education of visitors to help protect the dolphins and their habitat.
- Manage their businesses to maximise customer satisfaction and profitability in the face of the need for minimal impact practices.

In particular,

- design their tours to avoid excessive dependence on the dolphin component.
- develop effective interpretation programs.
- ensure that marketing creates realistic expectations.
- adopt best practice business management.

At the same time it is recommended that DNRE:

- continue to implement regulations designed to avoid population decline of the dolphins (as detailed by Hale 2002).
- base these regulations on the best available scientific knowledge and judgement (as presented by Hale 2002), combined with application of the precautionary principle.
- ensure as far as possible that these regulations are developed with the understanding and support of the operators.
- continue to support monitoring of dolphin populations in Port Phillip Bay, in order to gain an indication of whether current practices are sustainable.

REFERENCES

- Birtles, A., Valentine, P. and Curnock, M. 2001. Wildlife Tourism Research Report No. 11, Status Assessment of Wildlife Tourism in Australia Series, *Tourism Based on Free-Ranging Marine Wildlife: opportunities and responsibilities*. CRC for Sustainable Tourism, Gold Coast, Queensland.
- Department of Environment, Queensland. 1996. *The Art of Guiding* [kit – containing 1 booklet (62p) and 1 videocassette (20min) in folder]. Department of Environment, Brisbane.
- Department of Environment, Queensland. 1996. *The Art of Interpretation* [kit – containing 1 booklet (54p) and 1 videocassette (20min) in folder]. Department of Environment, Brisbane.
- Foxlee, J. 1999. *Whales and interpretive tales: a study examining visitors' needs and preferences for interpretation on whale watching tours in Hervey Bay*. Unpublished Honours thesis, School of Tropical Environmental Studies and Geography at James Cook University, Townsville.
- Green, R. and Higginbottom, K. 2001. Wildlife Tourism Research Report No. 5, Status Assessment of Wildlife Tourism in Australia Series, *The Negative Effects of Wildlife Tourism on Wildlife*. CRC for Sustainable Tourism, Gold Coast, Queensland.
- Hale, P. 2002. *Interactions between Vessels and Dolphins in Port Phillip Bay*. Report to Victorian Department of Natural Resources and Environment. CRC for Sustainable Tourism, Gold Coast, Queensland.
- Hall, C.M. and McArthur, S. 1998. Interpretation and Education. Pp 165-190 in *Integrated Heritage Management: Principles and Practice*. The Stationary Office, Norwich.
- Ham, S.H. 1992. *Environmental Interpretation: A Practical Guide for People with Big Ideas and Small Budgets*. North American Press, Golden, Colorado, USA.
- Hare, W.L., Marlow, J.P., Rae, M.L., Gray, F., Humphries, R. and Ledger, R. 1990. *Ecologically sustainable development: a submission*. Australian Conservation Foundation, Fitzroy, Victoria.
- Higginbottom, K., Northrope, C.L. and Green, R.J. 2001b. Wildlife Tourism Research Report No. 6, Status Assessment of Wildlife Tourism in Australia Series, *Positive Effects of Wildlife Tourism on Wildlife and Habitats*. CRC for Sustainable Tourism, Gold Coast, Queensland.
- Higginbottom, K., Rann, K., Moscardo, G., Davis, D. and Muloin, S. 2001a. Wildlife Tourism Research Report No. 1, Status Assessment of Wildlife Tourism in Australia Series *Wildlife Tourism in Australia Overview*. CRC for Sustainable Tourism, Gold Coast, Queensland.
- Knight, R.L. and Cole, D.N. 1995. Factors that influence wildlife responses to recreationists. Pp 71-80 in Knight, R.L. and Gutzwiller, K.J. (eds). 1995. *Wildlife and Recreationists: coexistence through management and research*. Island Press, Washington DC, USA.
- McKercher, B. 1998. *The Business of Nature-based Tourism*. Hospitality Press, Melbourne.
- Moscardo, G. and Saltzer, R. (2002). *Understanding tourist wildlife interactions*. CRC Sustainable Tourism. Draft Technical Report. June 2002
- Moscardo, G., Woods, B. and Greenwood, T. 2001. Wildlife Tourism Research Report No. 2, Status Assessment of Wildlife Tourism in Australia Series, *Understanding Visitor Perspectives on Wildlife Tourism*. CRC for Sustainable Tourism, Gold Coast, Queensland.
- Nature and Ecotourism Accreditation Program Working Group (NEAPWG). 2000. *Nature and Ecotourism Accreditation Program Edition 2*. NEAP, Brisbane, Queensland.

Orams, M. 1994. Creating Effective Interpretation for Managing Interaction between Tourists and Wildlife. *Australian Journal of Environmental Education*. 10(1): 21-34.

Tourism Council of Australia/CRC for Sustainable Tourism (TCA/CRCST). 1999. *Being Green is Your Business*. Tourism Council of Australia, Woolloomooloo, New South Wales.