Chapter 16
Developing ecotourists’ environmentally sustainable behaviour

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Introduction
As noted by Buckley and other authors in this volume, most definitions of ecotourism include some kind of environmental education or interpretation component. In Australia, ecotourism accreditation requires that the experience “fosters environmental and cultural understanding, appreciation and conservation” (Ecotourism Australia, 2012). Some form of environmental education has thus become a key component of most ecotourism experiences. It is often argued that increasing visitors’ environmental understanding and awareness will lead to their voluntary compliance with environmentally sustainable practices and thus help to reduce the negative impacts of ecotourism. Not only does the ecotourism industry have the responsibility to minimise its own negative impacts, it also has the opportunity to play a positive role in helping to solve global environmental problems by providing environmental learning experiences that promote positive change in people’s everyday behaviour and lifestyles. Adopting a proactive role, in which environmental responsibility is not only embedded in ecotourism products and services but also actively communicated to tourists and other visitors, might be considered a moral and ethical responsibility (Miller and Twining-Ward, 2005).

The provision of an educational component is not only an obligation for ecotourism, but also a response to consumer demand. The demand from consumers for experiences that incorporate learning and education is increasing rapidly (Ritchie, Carr and Cooper, 2003). There is an expectation that tourism in general, and ecotourism in particular, should play a role in encouraging and supporting visitors’ adoption of environmentally sustainable principles and practice (Marion and Reid 2007; Secretariat of the Convention on Biological Diversity, 2004). Research by Ballantyne, Packer and Hughes (2009) indicated that visitors to an ecotourism site were highly supportive of the site’s conservation ethic. Packer (2006) further suggests that in tourism and leisure contexts, many visitors seek a learning experience that is both enjoyable and potentially transformative. These findings have important implications for ecotourism as they suggest that visitors are not only likely to be open to receiving conservation messages, but are also likely to feel that such learning has enhanced their experience.

The environmental problems facing the world today, including global warming, acid rain, air pollution, ozone depletion, water contamination and depletion, waste and deforestation, are largely the result of the behaviours of individuals and societies (Nickerson 2003). Individuals and societies thus need to contribute to the solution of these problems by adopting more sustainable behaviours. Education is necessary to
help people build the capacity to grapple with these issues and relate them to their own lives (Scott and Gough, 2004).

Ecotourism experiences provide important opportunities for informal environmental learning that are rarely possible in more formal contexts. They allow learners to engage with and in the environment, to observe the evidence and effects of environmental mismanagement, and to explore and construct their environmental knowledge, skills, attitudes, beliefs and behaviours in personally relevant and meaningful ways (Ballantyne and Packer, 2005). The emotional component that often accompanies learning in such contexts also contributes to a powerful, memorable and transformative learning experience.

Approaches to free-choice environmental learning and behaviour change

Two different broad approaches to free-choice environmental learning and behaviour change have been identified in the literature: a social marketing approach, which applies behaviour change principles to target and modify specific conservation behaviours; and an environmental learning approach which applies educational principles to develop an environmental ethic and environmental literacy (Monroe, 2003; Ogden et al., 2004). The former have usually been applied to target specific on-site visitor behaviours that ecotourism operators wish to encourage or discourage, e.g., encouraging visitors to stay on marked paths, while the latter address more generalised environmental behaviours that can be applied off-site, after the visit, e.g., dealing responsibly with household waste.

Social marketing approaches

Ecotourism providers often use interpretation strategies to influence people’s behaviour on-site. In this regard, interpretation is seen as a ‘soft’ form of visitor management, which attempts to influence visitors’ behaviour through information and gentle persuasion rather than through rules and regulations or physical controls (Kuo, 2002; McArthur and Hall, 1996; Orams, 1996). For example, persuading visitors that adopting the target behaviour will halt or reverse environmental damage is often successful in bringing about voluntary behaviour change.

One particularly influential theory in relation to behaviour change has been Ajzen’s (1985; 1991) Theory of Planned Behaviour. The theory posits that behaviour is a function of three categories of salient beliefs: behavioural beliefs (beliefs about the outcomes and consequences of particular behaviour); normative beliefs (beliefs relating to social pressures to perform or not perform the behaviour); and control beliefs (beliefs relating to one’s own ability, knowledge, skill, resources and opportunity to perform the behaviour). To be persuasive, interpretive messages need to address visitors’ specific beliefs about a phenomenon and target the information upon which these beliefs are founded (Ajzen, 1992). Thus, environmental interpretation that aims to influence specific environmental behaviours is often designed to challenge the salient behavioural, normative or control beliefs upon which the behaviours are based, and promote behavioural, normative or control beliefs that will achieve the desired outcomes (Ham and Krumpe, 1996; Ham and Weiler, 2002).
Ham and Krumpe (1996) discuss the application of the Theory of Planned Behaviour (Ajzen, 1991) to encourage horse campers, through carefully-designed signs and brochures, to adopt new behaviours to lessen their environmental impacts. They argue that, in order to influence visitors’ behaviours, interpretation should address the specific beliefs that are prominent, pertinent and important to the target audience. Ballantyne and Hughes (2006) developed and compared signage using three different theoretical approaches, including the Theory of Planned Behaviour, to reduce the incidence of visitors feeding wildlife in National Park areas. Both studies suggest that well-designed signage (that focuses on specific beliefs or misconceptions identified within the target audience) is potentially effective in changing visitors’ on-site behaviour.

Community Based Social Marketing Theory (McKenzie-Mohr and Smith, 1999) is based on the Theory of Planned Behaviour, but extends it by including consideration of the perceived barriers that prevent people from adopting a specific behaviour and the perceived benefits that support the behaviour. The Community Based Social Marketing approach includes a range of strategies that can be applied to overcome the perceived barriers and reinforce the perceived benefits of a specific behaviour. These include prompts, incentives, feedback and social support. Such an approach has been successfully applied in an ecotourism setting by Hughes and colleagues, although it should be noted that in this case the target behaviours were off-site and post-visit (Hughes, 2011; Hughes, Packer and Ballantyne, 2011).

**Environmental learning approaches**

Attempts to define the nature and scope of environmental education invariably promote, as its ultimate aim, the development of responsible environmental behaviour (Howe and Disinger, 1991; Hungerford and Volk, 1990). Environmental education approaches in ecotourism settings do not target specific behaviours, but more generally address visitors’ factual knowledge and understanding (or misunderstanding) of environmental phenomena, their general awareness of and attitudes towards environmental issues, and their skills and abilities to engage in environmentally responsible practices. An environmental learning approach aims to develop life-long learners who are able to apply their knowledge, attitudes and skills to make responsible environmental decisions in new and changing contexts (Ardoin, 2009).

Such an approach is consistent with contemporary theories of education in both formal and informal contexts, which focus on *meaning-making* rather than *meaning-taking* (Silverman, 1999; Uzzell, 1998). Rather than focussing on whether a particular message has been conveyed or target behaviour attained, an environmental learning approach attends to the multiple ways in which visitors make meaning from the information they encounter and the observations they make. From this perspective, in considering how ecotourism experiences might promote and encourage the adoption of environmentally sustainable behaviours, it is therefore important to interpret such outcomes in their broadest sense. Changes in behaviour might involve lifestyle changes, talking to others about environmental issues, searching for further information, joining volunteer programs, or donating to environmental organisations.

Ballantyne and Packer (2005; 2011) emphasise the importance of influencing visitors’ behaviour not only at the site itself, but also in their home, work and leisure
environments. Newsome, Dowling and Moore (2004, p. 32) also argue that interpretive messages and experiences need to be designed “not only to meet immediate on-site needs, but also contribute to enhanced wildlife conservation awareness which visitors may take with them when they return to their normal lives or visit some other natural area in the future”. To achieve this, many ecotourism experiences are accompanied by conservation-themed interpretation that aims to increase visitors’ awareness of conservation issues and encourage them to comply with pro-conservation practices both while participating in the experience and on their return home. The primary aim of such interpretation is to raise awareness and appreciation of the fragile state of the environment (Turley, 1999), the interrelationships between wildlife and habitats, and the impact of human activities upon the long-term viability of natural environments and their wildlife populations (Mason, 2000).

Learning from this perspective is recognised as a cumulative process drawing from a wide variety of sources over long periods of time. Ecotourism experiences can play an important role in contributing to this process. Ballantyne and Packer (2011) suggest that the primary role of such experiences is to draw attention to the issues and provide a motivating force that drives further information-seeking. When left to chance, however, this motivation can often quickly dissipate. They argue that “extending the on-site experience to provide access to ‘take-home’ information and ongoing reinforcing events will optimise the potential impact of the experience on visitors’ adoption of environmentally sustainable behaviour in their home and work environments and their ability to translate their behavioural intentions into actions” (p. 210).

**Behaviour change strategies in ecotourism settings**

Weaver (2005) identifies two types of ecotourism experience – ‘minimalist’ and ‘comprehensive’ – that vary according to the extent of their educational impact. The former emphasises superficial learning opportunities and aims only to maintain the status quo (e.g., minimal impact) in relation to sustainability objectives. The latter emphasises deeper understanding and aims to influence environmentally sustainable behaviour more broadly. According to Weaver, strategies and techniques need to be devised that enable ecotourism experiences, even those that involve relatively short and physically non-challenging interactions with nature, to have a ‘transformative’ effect on visitors’ environmental ethos. Similarly, Orams (1995) calls for ecotourism management strategies that aim not only to provide visitor enjoyment and satisfaction but also to achieve a shift towards more environmentally responsible behaviour.

Strategies that have been found to be successful, both in influencing specific on-site behaviours, and more general environmental practices in the home and workplace include:

- Providing and building on opportunities for close encounters with nature;
- Engaging visitors’ emotions;
- Encouraging a reflective response;
- Focusing on achievable actions; and
- Providing long-term support for visitors’ behaviour change.
Providing and building on opportunities for close encounters with nature

One of the key assets of ecotourism experiences in contributing to visitors’ environmentally sustainable behaviours is the opportunity they provide for visitors to have a close and personal encounter with nature. This is arguably the most powerful starting point for effecting lasting and positive behavioural change. Ecotourism offers unique opportunities for participants to reconnect with nature in a potentially life-changing way, and such experiences are important in today’s society, where many people feel disconnected from nature due to increasing urbanisation and mechanisation (Forestell 1993).

Based on research with school students attending environmental education programs in natural settings, Ballantyne and Packer (2009) proposed five principles for facilitating student learning for sustainability in natural environments. Although these were developed in a formal education context, it is argued that they can be applied to visitor learning in ecotourism settings as they build on the unique learning opportunities that are available in natural environments. The five principles are: (1) learning by doing – actively involving learners in hands on exploration and investigation; (2) being in the environment – encouraging learners to experience and appreciate the special characteristics of the natural environment; (3) real life learning – basing learning activities on real places, real issues, and authentic tasks; (4) sensory engagement – providing opportunities to explore the environment using all five senses; and (5) local context – encouraging learners to explore and investigate environmental problems and issues in “their own backyard”.

Suggestions for applying these principles in ecotourism might include:

1. Learning by doing. Provide opportunities for ecotourists to participate in environmental rehabilitation programs or research studies. Such programs should include a strong educational component. It is likely that such opportunities would contribute to visitor satisfaction, as well as conservation and behaviour change outcomes.

2. Being in the environment. Environmental interpretation should, by definition, contribute to visitors’ understanding, appreciation and enjoyment of nature. According to Interpretation Australia (2012) the benefits of interpretation include to “enrich the visitor's experience by making it more meaningful and enjoyable” and to “assist the visitor to develop a keener awareness, appreciation and understanding of the heritage being experienced”. Interpretation that draws out the significance of the ecotourism site, and allows visitors to appreciate its special features while they are immersed in it, is likely to lead to the desire to protect not only that environment, but other similar environments.

3. Real life issues. Alert visitors to environmental issues that are currently affecting the ecotourism site and/or its wild inhabitants. Seeing the evidence of human impacts on the environment or on wildlife is a powerful motivator for action (Ballantyne, Fien and Packer, 2001).

4. Sensory engagement. Ecotourism experiences are well placed to immerse visitors in nature. Interpretation can help to focus visitors’ attention on the sensory environment, which is often an important aspect of visitors’ memories and the first step towards a behavioural response (Ballantyne, Packer and Sutherland, 2011). Point out unique sounds and smells; prepare specimens or
replicas that visitors can touch, use art or poetry to enhance visitors’ appreciation of what they see; and include local indigenous foods on the menu.

5. Local context. Help visitors to make connections between the ecotourism environment they are visiting and their own local environment. The new knowledge, understanding, appreciation and skills they gain from their ecotourism experience will be more valuable if they can be applied in other situations, and particularly in their home environment.

In some settings, of course, the very act of visiting a pristine or wilderness environment can have substantial negative impacts on the environment and its inhabitants (Marion and Reid, 2007). Reducing negative impacts through the implementation of appropriate policies, planning and management strategies is essential and is addressed elsewhere in this volume. It is important to note, however, that visitors can be an important ally in this process. Evidence presented by Ballantyne, et al. (2009) suggests that ecotourists strongly support the conservation aspects of the experience and place primary importance on minimal impact concerns, at the expense, if necessary, of their own experience and personal comfort. The key is to clearly communicate to visitors the reasons behind particular management practices in terms that relate directly to protecting the site or its wildlife from human impacts. The knowledge that they are accepting restrictions for the sake of minimal impact may even make the experience more special for tourists. Conversely, if tourists have cause for concern about the impact of their visit on the environment or the welfare of wildlife, it is likely to detract from their enjoyment and satisfaction.

Engaging visitors’ emotions
Ballantyne, Packer and Sutherland (2011), in a qualitative analysis of visitors’ memories of their ecotourism and wildlife tourism experiences, observed that many visitors responded emotionally to the experience, and that this appeared to be a trigger or catalyst for more in-depth cognitive and behavioural responses. This was particularly the case when visitors could witness the struggles of wildlife to survive, or when interpretation was focussed on the threats posed by human actions. Emotion plays a motivational role in learning as it influences people’s selection of what they attend to (Boler, 1999), prompts curiosity and exploration (Berlyne, 1960; Csikszentmihalyi and Hermanson, 1995), and increases concentration and willingness to learn (Krapp, Hidi and Renninger, 1992; Pekrun, 1992).

Myers, Saunders and Bexell (2009) argue that emotion contributes to the meaning of an experience and thus plays a role in whether and how the experience is remembered. The emotional aspects of activities and events also provide important contextual memory prompts that aid later recall of information (Sylwester, 1994). Emotions such as guilt, fear or emotional affinity toward nature can be a motivating force for the adoption of nature-protective behaviours such as reduced energy consumption (Kals, Schumacher and Montada, 1999). According to Myers et al. (2009), free-choice environmental learning settings are well placed to develop visitors’ empathy with nature, which is seen as a motivator of, or even prerequisite for, environmental action.

Interpretive commentaries and signage can be used to engage visitors’ emotions by reinforcing their sense of wonder, awe, excitement, privilege and empathy; and
highlighting specific threats to the environment and/or wildlife, especially those caused by human actions. For example, “hot interpretation” (Uzzell, 1989) uses emotive and challenging interpretive content and experiences to prompt visitors to re-examine their own previously held beliefs and perceptions regarding specific social, environmental, or moral issues (Ballantyne, 2003; Ballantyne and Uzzell, 1993). In this regard, Ballantyne, Packer and Bond (2012) identified the following five principles for the application of hot interpretive techniques: the central place of personal stories; the need to balance despair and hope; the need to balance education and persuasion; providing a place for reflection; and focusing on the past to inform the future.

**Encouraging a reflective response**

The important role of reflection in free-choice environmental learning has been demonstrated both qualitatively (Ballantyne, Packer and Sutherland, 2011) and quantitatively (Ballantyne, Packer and Falk, 2011), and is discussed in detail in a separate chapter in this volume (see chapter 14). Specifically, it is recommended that visitors be given opportunities and encouraged to reflect on the meaning of the experience, to discuss it with their companions, and to ask questions of staff or volunteer guides.

**Focusing on achievable actions**

Ecotourists are likely to be more knowledgeable, concerned and environmentally aware than the general public (Ballantyne, et al., 2009; Perkins and Grace, 2009) and in many cases do not need to be convinced that environmental problems exist. What is needed, however, are tools and solutions – specific and achievable options that will make a small but positive difference. People need to be convinced that their actions can contribute to halting or reversing environmental damage, in order to overcome the ‘action paralysis’ identified by Uzzell and Rutland (1993). This is one of the main challenges facing ecotourism and wildlife attractions in relation to developing ecotourists’ environmentally sustainable behaviour. Highlighting environmental problems without providing solutions or suggestions for individual actions can actually be counter-productive because they erode visitors’ confidence in their ability to combat conservation problems (Yalowitz, 2004). Visitors should thus be given examples of practical and achievable things that they can do both on-site and at home in their own local environment.

**Providing long-term support for visitors’ behaviour change**

Research in formal education contexts demonstrates the importance of the reinforcement and consolidation of learning (Anderson, Lucas, Ginns and Dierking, 2000). However, in free-choice learning settings, such reinforcement and consolidation processes are haphazard at best (Falk and Dierking, 2000). Although an ecotourism experience may result in a heightened awareness of environmental issues and an increased motivation to adopt more environmentally sustainable behaviours, unless these are reinforced by subsequent experiences, they are likely to be relatively short-lived (Adelman, Falk and James 2000; Dierking, et al., 2004; Rickinson, 2001).

Ecotourism providers can extend their influence in this regard by staying in touch with their visitors for some time after their visit. Today’s technologies and social media provide mechanisms for doing this that are relatively attractive and inexpensive. Post-
visit contacts might prompt visitors to cognitively and affectively process their experience, encourage responsible decision-making with regard to the issues highlighted during the on-site visit, and provide specific examples of appropriate responses that visitors might make to fulfill their behavioural intentions (Ballantyne and Packer, 2011). They can provide resources to enable visitors to follow up particular interests, extend their learning and maintain their motivation to act. In this way, ecotourism providers can build on and extend on-site conservation learning and sustainability messages and link these with post-visit behavioural responses. Preliminary research in this regard has demonstrated a measurable, statistically significant effect of the provision of post-visit action resources on long-term behaviour change (Hughes, et al., 2011), and suggests that substantial numbers of visitors would like to be provided with post-visit materials to enable them to continue learning about environmental issues after their visit (Ballantyne and Packer, 2010).

**Conclusion**

Bogner (1998) suggests that contacts with nature provide a “foot-in-the-door” which helps to shift individuals’ orientation to environmental issues. It is argued that ecotourism operators not only have a moral and ethical responsibility to take advantage of this opportunity, but by doing so, will add value to the experience they provide for their visitors. Ecotourism providers are well placed to draw people’s attention to the issues and provide them with a reason to care. By going just a little further and intentionally focussing on developing ecotourists’ environmentally sustainable behaviour, they can facilitate transformative experiences that have a long-term impact on visitor’s understanding, attitudes, and behaviour in relation to the environment.

Ecotourism experiences are, of course, limited in what they can achieve in isolation. Educating the public about environmental issues and sustainable behavioural responses needs to be understood as a life-long and life-wide learning endeavour. The impact of a single ecotourism experience may be small, but this can be multiplied exponentially as people continue to explore and develop their relationship with the environment, make small positive changes in their everyday lives, and encourage others to do the same.

**References**


