

The Realities and Effectiveness of Ecotourism Operations on Moreton Island

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Abstract

Ecotourism is the fastest growing sector of the tourism industry, but there has been a lack of studies assessing the tour operators' views on the environment of the area of their operation, and of the effectiveness of their interpretation methods. This study focuses on Moreton Island for its relatively undisturbed environment and restricted accessibility.. Interviews with a former Environmental Protection Agency (EPA) employee, representative of a local conservation group, and multiple tour operators were conducted to assess the knowledge of tour operators on the environmental issues of Moreton Island, while pre-visit and post-visit surveys were conducted with Moreton Island visitors onboard the ferry to assess the effects of participation in tours on the island. Surveys of environmental volunteers were also taken in search of insight into potentially effective interpretation methods.

The results showed that awareness of environmental issues greatly varied across the different tour operators, but that all parties agreed on the minimal impacts the tour operations cause on the island. Effectiveness of tour operations in affecting their customers' attitude towards the natural environment was inconclusive. However, it was found that the labeling of tours as an ecotour is minimally important in Moreton Island tourists' decision in choosing a tour, while indications of tourists desiring tour guides to relate the experiences back to the home region of the tourists were found. Further research is needed to clarify the findings of this study.

Topic Codes: 526, 232, 536

Keywords: ecotourism, interpretation, Moreton Island, tourism

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1 Introduction

1.1 Tourism

1.1.1 Overview

Tourism is the world's largest and fastest growing industry (Tisdell & Roy, 1998). It is multidimensional in nature, having economical, social, cultural, and environmental aspects among others (Tisdell & Roy, 1998; Williams, 2003). For this reason, it is hard to define tourism (Tisdell, 1998). The World Tourism Organization has however defined it as "activities of persons traveling to and staying in places outside their usual environment for not more than one consecutive year of leisure, business or other purposes" (Williams, 2003). Williams (2003) and Weaver (2008) have listed visiting family and friends, sports, education, pilgrimage, and health as other potential reasons for tourism, but not migration, commuting, military activity, or refugee. These different purposes of tourism have led to the creation of many different categories of tourism from sports tourism and urban tourism to volunteer tourism and ecotourism, the focus of this paper. Tourism also has another dimension of being either domestic or international (Williams, 2003; Weaver, 2008).

1.1.2 Tourist Types

McIntosh et al. (1995, in Macleod, 2004) has come up with four categories as motivators of tourism. The first is physical motivators that will reduce physical and psychological tension of the tourist. These include tourism for health purposes, sports and pleasure. Tourism may also be induced by cultural motivators, the desire to see and know more about other cultures. Interpersonal motivators are another group of motivators that results from the desire of a person to meet new people, visit friends or relatives and to seek new and different experiences. This may lead to tourism for spiritual reasons. McIntosh et al.'s fourth category of motivators is status and prestige. People may be affected by their desire for continued personal development, ego enhancement, or sensual indulgence, often for the

purpose of receiving recognition and attention from others. Tourism for the pursuit of hobbies and education are examples of tourism motivated by these factors. Many other ways of categorizing potential tourism motivators have also been proposed (for more detail, see Macleod, 2004).

Tourists with combinations of different motivators may also be grouped into different types of tourists. Cohen (1972, in Macleod 2004) has grouped tourists focusing on their degree of seeking novelty and desiring familiarity. He categorized those with low desire for adventure and remaining in their own “environmental bubble” as being an organized mass tourist. Individual mass tourists are organized mass tourists with a little more flexibility. The explorer, on the other hand, is an independent tourist “traveling off the beaten track” while still seeking comfortable accommodation and reliable transport. The drifter goes further in the level of independence, actively seeking to escape any familiarity by being immersed in the local culture and traveling without an itinerary. The first two are often categorized further as a package tourist, while the latter two are thought of as independent tourists.

One of the major differences between the package tourist and independent tourist as mentioned by Macleod (2004) is that the package tourist is often associated with rapid growth rates and restructuring of the local community while the independent tourist leads to relatively slower growth rates, but a greater level of local ownership. Tisdell and Roy (1998) also recognize this difference by stating that tourism may either act as a preserver or destroyer of existing cultures. Government decisions and policies (Tisdell & Roy, 1998) as well as the level of economic development found in the area (Lin, 1998) greatly affect the path that the tourism industry takes in an area. This is a result of the extensive interconnectedness of many aspects that make up the tourism industry. While Tisdell and Roy mention that technological interventions are revolutionizing the industry, they also say that it is widely recognized that

tourism development is self-destructive through its own nature. Ecotourism is one form of tourism that aims to counteract such destructive consequences (see next section).

1.2 Ecotourism

Ecotourism is largely recognized as the fastest growing sector of the tourism industry (Fennel, 2008; Chan & Baum, 2007; Newsome et. al 2002), accounting for upwards of 20% of the world tourism market (Frangialli 1997 in Fennel 2008). However, there are only vague indications on the size of the ecotourism market found in publications (Weaver, 2008). Weaver attributes this to the lack of a universally accepted definition of ecotourism. An outline of some of the proposed definitions of ecotourism is presented in Table 1 in chronological order. It can be said that some recurring themes of ecotourism include taking place in a natural setting, having minimal impact, and educating and increasing awareness of the participants of the environment.

Table 1. Some of the proposed literature definitions of ecotourism in chronological order.

Authour	Definition
Valentine, 1992	Nature-based tourism that is ecologically sustainable and is based on relatively undisturbed natural areas, is non-damaging and non-degrading, contributes directly to the continued protection and management of protected areas, and is subject to an adequate and appropriate management regime
Ecotourism Society, 1993	Ecotourism is responsible travel to natural areas which conserves the environment and improves the welfare of local people.
Butler, 1993	<ul style="list-style-type: none"> * It must be consistent with a positive environmental ethic, fostering preferred behavior. * It does not degenerate the environmental resource. There is no erosion of resource integrity. * It is biocentric rather than homocentric in philosophy, in that an ecotourist accepts nature largely on its own terms, rather than

	<p>significantly transforming the environment for personal convenience.</p> <ul style="list-style-type: none"> * Ecotourism must benefit the resource. The environment must experience a net benefit from the activity, although these are often spin-offs of social, economic, political or scientific benefits. * It is a first-hand experience with the natural environment. * There is in ecotourism an expectation of gratification measured in appreciation and education, not in thrill-seeking or physical achievement. * There are high cognitive (informative) and affective (emotional) dimensions to the experience, requiring a high level of preparation from both leaders and participants.
Allcock et al., 1994	<p>Nature-based tourism that involves education and interpretation of the natural environment and is managed to be ecologically sustainable. This definition recognizes that 'natural environment' includes cultural components and that 'ecologically sustainable' involves an appropriate return to the local community and long-term conservation of the resource.</p>
Fennel, 1999	<p>A sustainable form of natural resource-based tourism that focuses primarily on experiencing and learning about nature, and is ethically managed to be low-impact, non-consumptive, and locally oriented (control, benefits and scale). It typically occurs in natural areas, and should contribute to the conservation or preservation of such areas.</p>
Quebec Declaration on Ecotourism, 2001	<p>Sustainable tourism that</p> <ul style="list-style-type: none"> * contributes actively to the conservation of natural and cultural heritage * includes local and indigenous communities in its planning, development and operation and contributes to their well-being * interprets the natural and cultural heritage of the destination for visitors * lends itself better to independent travelers, as well as to organized tours for small groups.
Powell & Ham, 2008	<p>tourism to natural areas that supports environmental conservation, social equity, and environmental education in an effort to maintain economic viability without degrading the host environment</p>

(Derived from Weaver, 2008)

This appearance and proliferation of ecotourism is believed to be in part a result of the potential for the ideals of ecotourism to function as a tool to combine development and conservation, especially in the rural parts of developing countries (Butcher, 2007). Tourists can provide economic benefits to the tour operators and the local community, while the environment on which the tour is dependant upon must be preserved for the continuation of the tour. Success of ecotourism in bringing about this balance between development and conservation has been observed in some tours (i.e. Powell & Ham, 2008). Powell and Ham note that the effectiveness of ecotourism in promoting conservation of an area is in large part dependant upon the tour operators' abilities and in the interpretive planning of the tour.

As with tourists in general, ecotourists can also be categorized according to motivators and preferred ways of travelling. Motivation factors are generally a mix of the motivators listed by McIntosh et al's (1995 in Macleod, 2005), while mass package tourists are coined soft tourists and the drifter type of ecotourist is termed a hard ecotourist by Weaver (2008). In additions to the characteristics listed for mass and package tourists by McIntosh et al., soft ecotourists have significantly anthropocentric views, prefer physically less strenuous activities, and are often a part of a multipurpose trip. Hard ecotourists are the opposite, and poses strongly biocentric attitudes, prefers physically active and challenging experiences, and looks for close personal contact with nature in addition to the characteristics of a drifter.

However, it is important to note that it appears as if the positive connotation that the word "ecotourism" carries, especially in the recent years of increased media coverage of environmental issues, has lead to the word becoming a fashionable accessory term used by tour operators for advertisement in some cases (Weaver, 2008). Thus, some ecotours may have diverged from the original ideals of the ecotourism concept. For this reason, no strict

definition of ecotourism will be proposed for this study. This stance will allow the capturing of the reality of ecotourism in today's world, rather than to limit the study within the boundaries of academic ideals. Thus, regardless of the actual content of the tour and its environmental footprint, any tour that is claimed by the operators to be an ecotour is considered to be an ecotour for the purpose of this study.

1.3 Interpretation

1.3.1 Overview

Interpretation programs is often considered an integral part of ecotourism, and have a “long and distinguished history” in managing visitor behaviors in national parks, state forests, and marine parks of Queensland (Tourism Queensland, n.d.). This has lead to most park management agencies to report that the benefits of interpretation and environmental education is clearly understood throughout their organization (Wearing *et. al.*, 2008). Further, monitoring and evaluation of tourism in natural areas, and especially interpretation programs have been recognized as a key aspect in the conservation and reasonable use management of natural areas such as the Great Barrier Reef Marine Park (Madin & Fenton, 2004). However, there is a lack of study done in nature-based tourism including ecotourism, and the effectiveness of environmental interpretation has been largely untested (Wearing *et al.*, 08). Interpretation is also often the first to be abandoned by park managements in face of a lack of public funding (Tourism Queensland, n.d.).

Environmental interpretation was first written extensively by an American philosopher by the name of Freeman Tilden (Tourism Queensland, n.d.). He defined interpretation as:

“an educational activity which aims to reveal meanings and relationships through the use of original objects, by first hand experience, and by illustrative media, rather than

simply to communicate factual information” (1977 in Tourism Queensland, n.d.)

Interpretation has also been variously defined as “the process of stimulating and encouraging an appreciation of our natural and cultural heritage and communicating nature conservation ideals and practices” (Queensland Department of Environment, 1996 in Tourism Queensland, n.d.), “the skill of translating natural science and cultural heritage management principles and jargon into words and terms that people with no background in these areas can understand, appreciate, and enjoy” (Tourism Queensland, n.d.), and “a communication tool that is used to facilitate the way visitors engage with the places they visit” (Wearing et. *al.*, 2008). For the purpose of this study, interpretation is defined as “any element of tourism that increases the awareness, appreciation, or understanding of the natural and cultural values of an area in the visitor.” This definition includes both active interpretation such as narratives by tour guides and information boards, as well as passive interpretation accomplished by the visitor simply being in the place of natural and cultural values.

As apparent from the definitions of interpretation previously mentioned, the goals of interpretation include increasing the understanding of the natural environment and the relationships of the different aspects of it, and increasing the awareness and appreciation of those factors. Interpretation may also aim to portray seemingly boring things in interesting ways (Weaver, 2008), increase awareness and implement positive beliefs of contributing to the management efforts (Powell & Ham, 2008, Tourism Queensland, n.d.), develop appropriate attitudes and behaviors (Wearing et. *al.*, 2008, Knudson, Cable & Beck 95 in Wearing et. *al.*, 2008, Tourism Queensland, n.d.), communicate messages relating to nature and culture (Knudson, Cable & Beck 95 in Wearing et. *al.*, 2008), and to provide an enjoyable and meaningful experience (Knudson, Cable & Beck 95 in Wearing et. *al.*, 2008) while minimizing the impacts during the visit (Wearing, 2007; Weaver 2008).

1.3.2 Interpretive Methods

In achieving these goals, interpretation may take many different forms under several different circumstances. Mainly, they may be either personal or non-personal and take place on-site or off-site (Wearing, 2007). Off-site interpretation may be further broken down into pre-experience and post-experience interpretation (Wearing, 2007; Weaver, 2008). Off-site pre-visit experience is important in forming realistic expectations, and informing prospective visitors of values and resources that are present on site. This may influence the eventual behaviors of the visitor (Wearing 2007, Weaver 2008). Wearing reports that on-site experience plays the role of enriching the experience of the tourist and assisting in the development of awareness, appreciation and enjoyment of the different values, features, and issues of an area. It can also educate tourists on the appropriate behaviors to be taken to minimize the impact. Finally, off-site post-visit interpretation may provide material to extend on the on-site experiences (Wearing, 2007).

Both pre-experience and post-experience off-site interpretation may be based on non-personal interpretation in the form of brochures, books, and media (Weaver, 2008). On-site interpretation may take a wider range of methods from personal interpretation by guides, visitor centers, information boards and signs, brochures, and media (Wearing, 2007), audio guides (Novey & Hall, 2006), interactive computer programs (Wearing, 2007), and immersive and direct experiences making use of all five of our senses (Powell & Ham, 2008; Tourism Queensland, n.d.). Guiding may especially take on a wide array of techniques ranging from simply being friendly and enthusiastic (Tourism Queensland, n.d.) to making the participant think about their own actions and home regions (Wearing et. al., 2008, Tourism Queensland, n.d.), use of examples, analogies, comparisons, and humor, and presenting the “big picture”

(Tourism Queensland, n.d.). Ham (2003 in Wearing et. *al.*, 2008) states that interpretation must also be thought provoking in order to enhance visitor experience.

There are several theoretical frameworks explaining how these interpretive methods may influence visitor behavior. Two of the more commonly used theories are Ham's (1983, 1992, 2001, 2004 in Powell & Ham, 2008) EROT framework and Ajzen's (1988) theory of planned behavior. EROT is an acronym for Enjoyable, Relevant, Organized, and Thematic. Ham developed this framework based on cognitive theories specifically for non-captive audiences. It states that if the message is not enjoyable, relevant to the listener, told in an organized way that the listener can follow, or does not have a moral that promotes intellectual and emotional connections, the audience will simply "tune-out" (Powell & Ham, 2008). Ajzen's theory of planned behavior postulates that a person's attitude, beliefs about the attitudes of the people around them, and the perceived ease of difficulty in performing an action will form the person's intentions, which in turn will lead to the person's behavior barring an unforeseen event. Thus, by influencing the three factors that lead to the person's intentions, interpretation can lead to pro-conservation behaviors. Similarly, Hines et. *al.* (1986, in Wearing , 2007) came up with the model of responsible environmental behavior, stating that a person's environmental behavior is influenced by action skills, knowledge of action strategies, knowledge of issues and personality factors.

Maden and Fenton (2004) recognized these theoretical frameworks, but claims that they are inapplicable in evaluating many, if not most, nature based interpretation programs as they seek to increase the overall awareness of values and features of an area rather than to influence visitor behavior. Many such programs also focused on increasing visitor enjoyment and enhancing public relations. Thus, Maden and Fenton used a "bottom-up" or deductive approach proposed by Loomis (1996, in Maden & Fenton, 2004), to assess the interpretation

programs by collecting information from participants to understand the types and levels of knowledge acquisition.

1.4 Moreton Island

1.4.1 Natural Environment

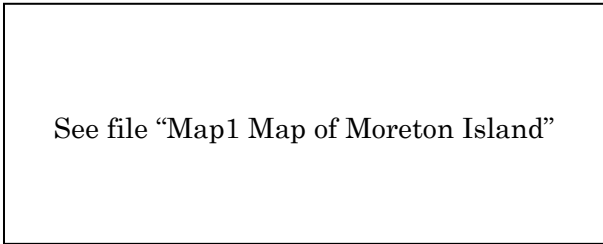
Moreton Island is a 37km long and 10km wide sand island, approximately 40km from Brisbane (see Map 1). It has remained relatively undisturbed by human development as a result of its lack of good commercially viable timber and inconvenient location for resource exploitation (Gennings, 2009). Therefore, the island retains outstanding records of continual geological, geomorphological, and biological processes and 16,900ha of the 19,000ha island is protected as a national park under the Nature Conservation Act of 1992 (QPWS, 2007). Most of the remaining land is occupied by townships. The island attracts over 170,000 visitors annually, and is distinguished by having Mt. Tempest, the world's highest stabilized sand dune at 285m, and by the only naturally destabilized sand dunes of the Pleistocene being actively reworked (QPWS, 2007). The island is continually changing as the Reeder's Point at the southern most tip has retreated north by 1000m between 1935 and 1975 while other areas are growing (Horton, 1983).

The entire island is made of sand, except for the northern tip of rock which also hosts the greatest biodiversity on the island (Horton, 1983). Throughout the island, the minimally disturbed vegetation is of considerable conservational value and includes mangroves, melaleuca, swamps, sedgelands, heath and eucalypt woodlands and open forests as well as a small patch of rainforest (Horton, 1983; QPWS, 2007). The island is also a very important feeding and resting area for migratory birds, and is listed on the Ramsar Treaty. Over 180 species of birds have been recorded on the island, including 31 species that are internationally protected (QPWS, 2007). There are also 40 species of reptiles, 11 native mammals, and 11 amphibians (QPWS, 2007). However, there are no kangaroos, wallabies, or dingoes to be found on the island

(Horton, 1983).

Moreton Island is surrounded by the Moreton Bay Marine Park. The marine park has the most significant loggerhead turtle population in Australia (QPWS, 2007, p. 12). Moreton Island plays an important role in the bay ecosystem as the seagrass meadows off the shore of Moreton Island provides a habitat for the vulnerable dugongs. (QPWS, 2007)

Map 1. Map of Moreton Island



See file "Map1 Map of Moreton Island"

(maps from State of Queensland EPA
Moreton Island National Park and Recreation Area map)

1.4.2 Cultural Values

The island also has great cultural values as it maintains the most undisturbed and diverse records of Aborigines in a coastal wallum environment in southeast Queensland (QPWS, 2007). Over 330 cultural sites have been identified, including large middens, shell and bone scatters, and stone quarries (QPWS, 2007). There is evidence that the Ngugi people have lived on the island for over 2000 years leading a marine-based lifestyle. They ate fish, shellfish, dugongs, turtles, and crustaceans as well as up to 65 plant species. Records also show that Aboriginal people from the mainland and Stradbroke Island also came to utilize the marine resources of the island, while the Ngugi people attended some ceremonies on the mainland such as the Bunya Festival (QPWS, 2007).

The first European recording of the island was made in 1770 by Captain Cook (QPWS, 2007). In 1848, the first settlement, a pilot station, was made at Cowan Cowan making the northern end of the island the main passage through Moreton Bay (QPWS, 2007). As a result, Queensland's first lighthouse was erected in 1857 at Cape Moreton out of local sandstone (QPWS, 2007). The island also functioned as a first line defense during the two world wars. Some of the infrastructure including the Rous Battery Track, Middle Road, and the jetty at Tangalooma were originally constructed for the war (QPWS, 2007). Tangalooma also functioned as the only whaling station in Queensland from 1952 to 1962 (QPWS, 2007).

Access to Moreton Island is limited to ferries and barges from Brisbane, while transport on the island is dominated by 4WD vehicles. Fishing is popular on the eastern side of the island, while boating and swimming tends to be the major attractions on the west coast (Horton, 1983). There are walking tracks up Mt. Tempest and up to The Desert from the western coast, while the Blue Lagoon provides a nice swimming area. Sand tobogganing is a popular sport on the sand dunes of The Desert, Big Sandhills, and Little Sandhills. Snorkeling

is also prevalent as the Wrecks provide visitors with an opportunity to see some corals. There are a number of campsites available, mostly along the east and west coasts and the northern part of the island, while Tangalooma Resort is the only other accommodation aside from the townships.

1.4.3 Environmental Issues

Moreton Island remains to be relatively pristine today. However, there are a number of threats. Inappropriate fire regime has been recognized as a major threat to maintaining species diversity of plant communities (QPWS, 2007; Gennings, 2009). Too frequent fires can result in loss of species diversity and net loss of nutrients, and the risk of fires is increased by the increasing number of visitors and resource manager's desire to restrict large wild fires. (Gennings, 2009). Invasive plants remains to be a major threat, as well as feral animals and introduced fish. Fortunately, cane toads have only been found on isolated occasions as the island geography of Moreton Island has effectively prohibited mass migration needed for the spread of cane toads (Gennings, 2009). However, introduction of cane toads and fire ants will always remain a major threat as fire wood and construction material are transferred over from the mainland (QPWS, 2007). The increasing number of visitors and 4WD vehicles are major threats to the shorebirds that nest and feed on the beaches. The eggs and young may be run-over by vehicles, while migratory birds may not be able to store the strength needed to successfully travel to their destination due to the disturbance (QPWS, 2007). Four-wheel drive vehicles also promote sand movement both by erosion and by damaging the vegetation holding the sand in place (QPWS, 2007). In the freshwater systems, excess nutrient input, rubbish, and inappropriate disposal of portable toilet effluent pose major threats (QPWS, 2007).

1.5 Aims and Limits of the Study

This study has two main goals. The first is to compare the views of park

management and conservation groups with the views of tour operators on Moreton Island. Tourism is the main activity on the mostly national park island, and it is important that the views of the above mentioned parties are congruent for the island to retain its status as having a pristine natural environment. Secondly, the effect of the tours on tour participants is studied to assess the effectiveness of message portrayal by the tour operators. Even when a tour operator has good intentions, it is of no benefit if the intentions are not relayed on to its patrons.

There were several limitations on this study, partly due to the nature of tour operations on Moreton Island. Many of the tourists that visit Moreton Island come from outside Australia, often with a first language that is not English. This may have led to wrong or insufficient understanding of some survey questions. Memory of survey questions by post-visit survey takers who had also taken the pre-visit surveys is also of some concern, especially as commercial tours are mostly either day trips or two-day trips. Also, the inability to follow individual tours resulted in the surveys asking relatively general questions, preventing close investigation of the effectiveness of individual tour operators. Another factor that limited this study was the oil spill caused by Cyclone Hamish that led to Moreton Island being declared a disaster zone by the premier of Queensland. This event eventuated in access restrictions during this study's surveying period on parts of the island that tour operators usually visit. The clean-up processes also meant that rangers were busy and unavailable for interviews.

2 Methods

2.1 Overview

This study was conducted by first identifying and contacting ecotourism operators on Moreton Island and other areas in southeast Queensland. Moreton Island was chosen as the area of primary focus for its relatively undisturbed environment and for its limited access points. The tours were found primarily by searching online, while some other operators were identified

through conversations with the operators first identified. Tour operators' self-recognition of the operation as ecotourism was first confirmed verbally over the phone or via email. The objectives of the study were then explained, and an interview requested. In cases where the operators were too busy to have an interview, they were asked to fill out questionnaires in place. Fifteen operators were contacted, of which six operators were available for interviews or questionnaires. This response rate may in part be due to some tour operators on Moreton Island with operation permits being inactive (Gennings, 2009). Surveys directed towards the participants of ecotours were then formulated and executed. Similar surveys were conducted to members of the Moreton Island Protection Committee (MIPC) who have done some volunteer work with the organization. Interviews with a former Environmental Protection Agency (EPA) employee and representative of the MIPC were also conducted for their views on Moreton Island and ecotourism. Details of the interviews and surveys are outlined in the following sections.

2.2 Interviews

Interviews were conducted either in person or over the phone depending on time availability of the operator and the physical accessibility of their office. Operators were first asked about what they perceived to be the major environmental problems in the area of their operation. Next, their ideas on the role of tourism in face of these environmental problems were identified. Then, they were asked to define ecotourism and whether they considered their tours to be an ecotour. The methods and techniques that they use in their ecotourism operation were identified next. Finally, the operators were asked about what message they hoped to impart upon the participants through their tours. Questionnaires directed towards the operators asked the same questions.

Interviews with MIPC and a former EPA employee were focused on the environmental

issues of Moreton Island, the role that tourism plays on the island, and their views on ecotourism.

2.3 Surveys

Surveys were constructed taking into account existing literature on interpretation and the different interpretive methods that tour operators claimed to use. Two different forms of surveys were constructed for Moreton Island tourists and environmental volunteers.

In the Moreton Island survey, a pre-experience and a post-experience survey were conducted. Both the pre-experience and post-experience survey contained identical questions asking the respondents to rate their knowledge and appreciation of the natural environment and their level of motivation to support environmental actions on a scale of 0 to 10. Demographic questions asking for their age, sex, nationality, hobby, and whether they belong to any environmental groups were also asked in both surveys along with a question asking which, if any, commercial tours they were participating in.

The pre-experience survey asked, in addition, the reasons for choosing the tour, and what they most looked forward to in their visit to Moreton Island. The post-experience survey asked instead to rate their experiences in the different aspects of the tour, any behaviors they are likely to change as a result of participating in the tour, as well as the message they took away from participating in the tour. The surveys were conducted on board the Micat ferry during four trips each way between Brisbane and Moreton Island over three consecutive days starting on the second of May, 2009. A copy of the pre-visit and post-visit surveys can be found on Appendices I and II.

Volunteer surveys were conducted by sending an electronic copy to those who have participated in volunteer work on Moreton Island through MIPC. They were presented with

the options of replying by email, printing out and sending by mail, or having a hard copy with a return envelope sent to them. The survey consisted of a combination of the questions of the Moreton Island tour surveys, with additional questions about their volunteer career, and adjusted to be more appropriate for their experiences. Instead of asking to rate their knowledge and appreciation of the natural environment and their motivation to support environmental action, this survey asked to rate the change in the three areas since they started doing volunteer work. This survey was conducted in addition to the tourist surveys to compare the effects of different activities on the participant in similar environments. A copy of the volunteer survey can be found on Appendix III.

2.4 Analysis

2.4.1 Park Management, MIPC, and Tour Operators' Views

Interviews and surveys were compiled into an excel worksheet, breaking down the responses into several categories based on the aims of the question asked. The views of each were compared and contrasted for each category.

2.4.2 Tourist and Volunteer Surveys

Completed surveys were manually compiled on different sheets in a Microsoft Excel file. Results on scales were combined into fewer categories to eliminate the occurrence of non-responses as much as possible without losing all relevant information upon analysis. All analyses including averaging and Chi-square analyses were performed using Microsoft Excel.

3 Results

3.1 Interviews

3.1.1 MIPC and Park Management

The major environmental issues on Moreton Island raised by Alan Gennings of MIPC and a former EPA employee were: inappropriate (too frequent) fire schemes, non-native species,

erosion and impacts on beach biota due to 4WD vehicles, and general tourist impacts of overuse of campgrounds, rubbish, degradation of vegetation, and eutrophication of freshwater lakes. While all issues are inter-related and could not be ranked in terms of significance, the former EPA employee raised erosion as the factor connecting most issues together.

Tourism was originally promoted in a fight against sand-mining on Moreton Island, and has achieved the goals of stopping the project and also creating more long-term jobs than would have been possible by mining (Genninges, 2009). The former EPA employee believes the role of tourism on Moreton Island now is to promote the values of natural heritage, especially being in such close proximity to Brisbane. However, he also recognized that a secondary goal of making a profit must always underlie a tour operator's actions. Genninges agrees that tourism creates economic activity and probably greatly benefits the general economy, but notes that national parks' costs of providing services to visitors is greater than the returns to the park. Tour operations are beneficial also in that while it results in greater visitor numbers, tour operators are able to enforcement proper behaviors on them.

Ecotourism was defined by Genninges as "where the experience results in an immersion of the tourist in the natural environment with minimal impact, and access to all types of information about the natural area" and as a commercial operation in a fragile area with high natural and/or cultural values with minimal impact by the former EPA employee. The former EPA employee believes that the term ecotourism has spread in the tourism industry as something "fashionable" and agrees with Genninges that ecotourism in its ideal has not, and will not be achieved due to the lack of demand by tourists. They believe tourists are only willing to pay for transportation and food, and will not pay extra money for an experience with the limitations that an ideal ecotourism will impose. However, both also agree that aspects of ecotourism are present on Moreton Island, and the former EPA employee believes that tour

operators on Moreton Island are doing a good job minimizing their impacts within their respective niche markets. He believes many of the problems are caused by returning long-time tourists who have come to take the island for granted.

Regarding the future of tourism on Moreton Island, Gennings would like to see a mechanism set up where interested tourists are given the opportunity to stay longer and help out in conservation efforts. Such schemes are underway by the Queensland Water and Land Carers. The former EPA employee would like to see a movement towards a lower impact tourism utilizing more walking tracks as opposed to the 4WD prevalent on the island.

3.1.2 Tour Operators

The tour operators' perception of the environmental issues in the area of operation varied significantly across the different companies. On one end of the spectrum, there was an operator mentioning the lack of available facilities and erosion as a natural process as a problem. On the other end, an operator was very thorough in mentioning the impacts of tourism, development, and of issues outside the area that makes its way around to eventually harm the local environment. Some were purely anthropogenic causes, while others were more complicated, concerning the changes in the ecosystem for various reasons including introduction of foreign species and global warming.

Tourist's role was generally agreed to be to enjoy and appreciate the environment, which was also mentioned to be the message tour operators hoped to get across. Tour operators' believed it was their responsibility to direct the tourist to behave appropriately during their visit. Some tour operators recognized tourism to be capable of bringing about not only negative, but also positive changes in development and conservation. Much of the problems concerning tourism were attributed to independent tourists, while the tour operators felt that commercial tours in general are doing a good job minimizing their impacts.

Ecotourism was defined in many ways, ranging from definitions as simple as “at one with nature, sharing without destroying” to a long, paragraph long explanation. However, there was a common notion of ecotourism being minimal impact by all operators, while the component of nature, education, and the need for it to offer an enjoyable and high quality experience were mentioned by multiple operators. Thus, ecotourism as defined by the operators can be said to be “a minimal impact and enjoyable experience in a natural environment with some educational component.”

The interpretive methods mentioned by operators to accomplish the goals of ecotourism and to portray messages to the participants were similar amongst all operators. Verbal communication was the main way of informing the tourists, and enthusiasm, repetition, use of simple language, analogies and comparisons, tying in topics of interest to each participant were all common techniques being implemented. Tour guides’ conversations with tour participants plays a large role in finding out more about the particular audience in order to choose the most appropriate ways of verbal communication. It enabled guides to choose the more interesting topics for the participants, relate to the participants’ home region, and to provoke thoughts about their own actions. Some operators also altered their itinerary depending on the specific interests of the tourist, and one operator even splits the participants into smaller groups to accommodate multiple interests. Small groups were mentioned by some other operators to be an integral part of their tours ideals as well. Multiple operators also made a point of informing the participants of the different actions they take to minimize the environmental impacts of the tour in hopes of setting an example. Some of the non-verbal methods used by operators included incorporating the use of all five senses in experiencing the environment and the use of books, brochures, and videos.

3.2 Surveys

3.2.1 Moreton Island Pre-visit Survey

Sixty-seven pre-visit surveys were collected on the Micat ferry on its way to Moreton Island. Of the respondents, 28 were independent travelers, while 39 were on commercially operated tours. There was a slight difference in mean age between the two groups, with the commercially operated tour participants averaging 26.2 years and the independent tourists averaging 27.9 years. Males accounted for 46% and 41% of tour and independent travelers respectively. There was also a significant difference in the composition of nationalities between the two groups, as the tour participants were predominantly international tourists (90%) while independent visitors consisted of mostly Australians (52%). Independent tourists put more importance on reading as a hobby than tour participants and consistently put a greater level of importance on every listed interest, but the two groups showed a strong similarity in the relative importance of each hobby in terms of others.

The reasons for choosing to visit Moreton Island also seem to be relatively consistent amongst all visitors (Table 2). The natural environment was raised as a reason by approximately one in two persons, while the location and the opportunity for physical activities also received considerable mention. It should also be noted that ecotour label was listed as a reason by only two tour participants. On the other hand, the aspects of the visit that the two groups looked forward to were somewhat different (Table 2). While about a half of both groups listed activities as something to look forward to, tour participants were more likely to list the natural environment and wildlife as important compared to the independent tourist group. The independents in turn put much greater emphasis on socializing and camping. They also were more likely to list multiple things that they looked forward to.

Table 2. The reasons for visit and things to look forward to upon visit to Moreton Island. Numbers indicate number of responses. Numbers in parentheses indicate the percentage of respondents within the respective groups giving the response.

Reasons for visit	Independent	Tour
Location	9 (39.10)	13 (33.3)
Price	2 (8.7)	7 (17.9)
Ecotour label	0 (0)	2 (5.1)
Customer reviews	2 (8.7)	3 (7.7)
Nature	13 (56.5)	19 (48.7)
Culture	1 (4.3)	0 (0)
Activity	6 (26.1)	13 (33.3)
Other	3 (13.0)	2 (5.1)
Multiple reasons	10 (43.5)	17 (43.6)
Things to look forward to	Independent	Tour
Activities	14 (50.0)	19 (48.7)
Nature	10 (35.7)	17 (43.6)
Wildlife	8 (28.6)	17 (43.6)
Learning	3 (10.7)	1 (2.6)
Socializing	16 (57.1)	10 (25.6)
Camping	15 (53.6)	6 (15.4)
Other	2 (7.1)	2 (5.1)
Multiple things	18 (64.3)	15 (38.5)

Self-reported level of knowledge about the natural environment revealed that a greater percentage of independent tourists believe themselves to have more knowledge than the average (Table 3). However, approximately a quarter of both independents and tour participants reported having less than the average amount of knowledge of the natural environment, with the difference coming almost entirely from the percentage of self-reported averagely knowledgeable

persons. The level of appreciation that tourists report towards the natural environment showed an exceptionally high percentage of independent tourists reporting having greater appreciation than the average, while a great majority of the tour participants also reported in the same way. Motivation to support environmental actions was also higher in independent tourists than in tour participants. However, only five respondents of the total pre-experience survey takers reported belonging to any environmental groups.

Table 3. Breakdown in percentage of respondents' self-reported knowledge of the natural environment, appreciation towards nature, and motivation for support of environmental action on a scale of 0 to 10 prior to their visit to Moreton Island. A reporting of 5 was indicated as being "average."

	Knowledge		Appreciation		Support	
	Independent	Tour	Independent	Tour	Independent	Tour
<5	25.0	25.6	3.6	7.7	3.6	10.2
=5	17.9	35.9	0	17.9	17.9	25.6
>5	57.1	38.5	96.4	74.4	78.6	64.1

3.2.2 Moreton Island Post-visit Survey

Eighty-nine visitors to Moreton Island responded to the post-visit survey onboard the Micat ferry back to Brisbane. Thirty-eight of the respondents were independent visitors, while 51 of them were on commercially operated tours. There was a significant difference in mean age between the two groups, with the independent tourists averaging 30.9 years of age, while the tour participants averaged 25.9 years. Males accounted for 58.5% and 40.9% of tour and independent visitors respectively. As with the pre-visit surveys, there was a significant difference in the composition of nationality amongst the tour participants and independent tourists, as 85.4% of tour participants were from overseas while a mere 4.5% of the independent visitors came from outside Australia. However, unlike in the pre-visit survey, there was some discrepancy in the level of importance respondents from each tourist group placed on their

interests. While hiking and camping, arts and crafts, reading and writing, and gardening received similar ratings, independent tourists placed a higher importance on pets, while the tour participants placed greater emphasis on sports, socializing, and traveling.

Self-reported levels of knowledge about the natural environment resulted in about half of both the independent tourists and commercial tour participants reporting having greater than average knowledge (Table 4). A higher percentage of independent tourists indicated having less than average knowledge, while more tour participants reported having an average level of knowledge. A very high percentage of both groups of tourists indicated having greater than average level of appreciation for the natural environment, while 20 percentage points more of the tour participants than independent tourists believed they have a greater motivation to support environmental action than average.

Table 4. Breakdown in percentage of respondents' self-reported knowledge of the natural environment, appreciation towards nature, and motivation for support of environmental action on a scale of 0 to 10 after their visit to Moreton Island. A reporting of 5 was indicated as being "average."

	Knowledge		Appreciation		Support	
	Independent	Tour	Independent	Tour	Independent	Tour
<5	28.9	18.0	0	4.2	21.1	16.7
=5	18.4	36.0	2.6	6.3	28.9	12.5
>5	52.6	46.0	97.3	89.6	50.0	70.8

Satisfaction of the experiences on the island was, for the most part, very high for both tour participants and independent tourists (Table 5). For those on commercially operated tours, the guided tour aspect was a strongly positive aspect, as only two respondents out of 46 indicated any level of dissatisfaction with the overall effect of tour guiding. Tour guides using easily understandable language, promoting the uniqueness and importance of the island, and making things interesting received the highest satisfaction amongst the techniques used, while

relating the ideas back to the tourists' home region was rated as only a slightly satisfactory experience with 34.1% indicating it as dissatisfying to different degrees. Taking a broader

Table 5. Percentage of satisfaction and enjoyment of commercial and independent tourists to Moreton Island on the different aspects of their experiences.

		Negative		Neutral		Positive		Average	
		Sat.%	Enj.%	Sat.%	Enj.%	Sat.%	Enj.%	Sat.	Enj.
Guide (tour only)	overall	4.3	0.0	8.7	0.0	87.0	100.0	2.17	2.75
	thought	8.7	6.7	21.7	6.7	69.6	86.7	1.30	1.80
	interesting	2.0	0.0	8.0	10.0	90.0	90.0	1.88	2.05
	stories	2.2	0.0	24.4	25.0	73.3	75.0	1.20	1.88
	easy	6.1	5.6	8.2	5.6	85.7	88.9	1.90	2.22
	big picture	6.1	0.0	18.4	11.1	75.5	88.9	1.49	1.94
	home	34.1	28.6	29.5	7.1	36.4	64.3	0.25	0.71
	unique	2.1	0.0	12.5	12.5	85.4	87.5	1.79	1.94
Brochure	tour	20.5	20.0	30.8	40.0	48.7	40.0	0.46	0.40
	independent	0.0	0.0	25.0	0.0	75.0	100.0	1.25	1.00
Info boards	tour	12.8	14.3	33.3	50.0	53.8	35.7	0.92	0.57
	independent	10.5	20.0	21.1	40.0	68.4	40.0	1.05	0.20
Physical activities	tour	2.1	0.0	4.2	0.0	93.8	100.0	2.14	2.75
	independent	11.1	25.0	16.7	0.0	72.2	75.0	1.50	0.75
Nature	tour	0.0	0.0	6.0	4.5	94.0	95.5	2.40	2.68
	independent	0.0	0.0	5.3	0.0	94.7	100.0	2.26	2.28
Wildlife	tour	4.1	0.0	10.2	4.2	85.7	95.8	1.71	2.13
	independent	5.0	16.7	10.0	0.0	85.0	83.3	1.65	1.00
Socializing	tour	4.0	4.2	14.0	4.2	82.0	91.7	1.82	2.17
	independent	10.0	0.0	5.0	0.0	85.0	100.0	1.95	2.17
Camping	tour	10.0	16.7	20.0	16.7	70.0	66.7	1.40	1.25
	independent	0.0	0.0	17.6	0.0	82.4	100.0	1.94	2.33

view on tourist experiences, satisfaction was very high in both tour participants and independent tourists for the natural environment, as over half of both groups rated it at the highest satisfaction level. Satisfaction was also high in both parties for wildlife and socializing. Some

differences in satisfaction were found between the two groups of tourists as tour participants rated satisfaction higher for physical activities than independent tourists, while the independent tourists rated camping and brochures to be much more satisfying than their tour participant counterparts. Brochures, however, received only moderate satisfaction even from the independent tourists.

Enjoyment of the different aspects of the visits was also highly positive for the most part (Table 5.) Guided tours again received high marks throughout from the tour participants, with each aspect being rated at a higher enjoyment than their respective ratings for satisfaction. On the contrary, the broader aspects of tourist experiences, while still positive, received lower ratings of enjoyment than they did for satisfaction. This is particularly apparent in ratings of information boards and signs by both groups, and in physical activities and wildlife by independent tourists. Tour participants enjoy the physical activities considerably more than the independent tourists, while the independent tourists rated the enjoyment of camping higher. Socializing was once again highly rated by both groups.

While only 52.7% of respondents answered the question regarding any changes in behavior resulting from their visit, those who did reply listed garbage disposal and travelling habits most frequently (Figure 1). Use of four-wheel drive vehicles and choosing more environmentally friendly tours were listed in particular. Other responses included hiking more and spending a longer time on the island. The reply rate was considerably higher for tour participants (64.7%) than for independent tourists (34.3%).

Messages received by the tourists from their visit to Moreton Island are listed in Table 6. Response rates were high for tour participants (62.7%), but again much lower for independent tourists (26.3%). Overall, environmental messages predominated, followed by comments on the beauty of the island and the message to simply enjoy yourself.

Figure 1. Number of responses to potential behavioral changes resulting from the visit to Moreton Island.

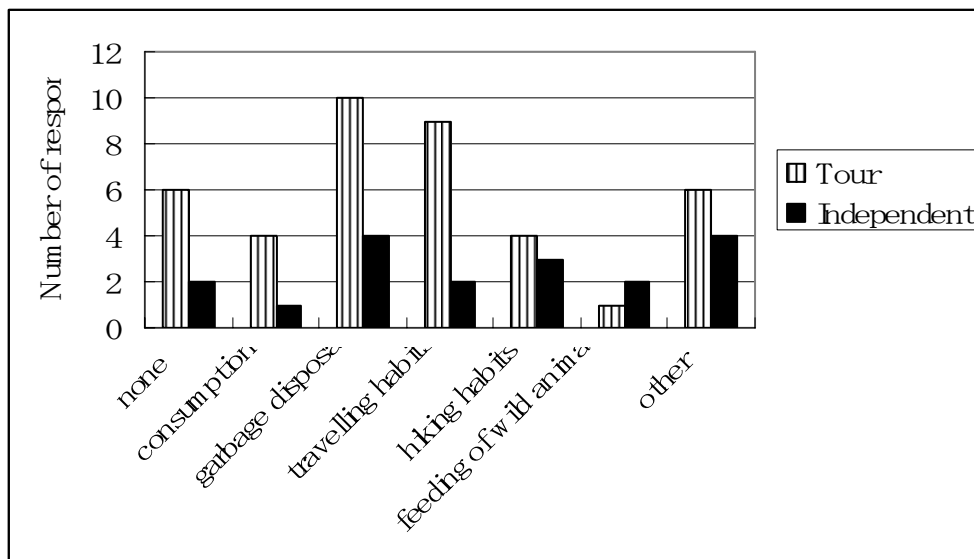


Table 6. A list of some of the messages tourists perceived during their stay on Moreton Island.

Tourist type	Messages
Tour Participants	Nice, unique environment
	Dolphins and pelicans are cool
	The natural environment is delicate and easily disturbed/destroyed
	Don't introduce new things into a long standing environment due to the Changes they may make to the ecosystem
	Fun and beautiful island
	Big importance to save the natural environment of this island, saw no garbage, nice to see this works with so many visitors
	Look after natural resources
Independent	That you should respect the things you enjoy doing

tourists	Love the wildlife, nature is so important possibly on par with god
	Enjoy and protect the bay

Attempts were made to correlate the satisfaction and enjoyment levels with knowledge and appreciation of the natural environment and the motivation to support environmental actions, but were unsuccessful due to insufficient data.

3.2.3 Pre-/Post-visit Survey Comparison

Pearson's chi-square analysis results in the two populations of tour participants and independent tourists between the pre-visit and post-visit surveys to differ in the importance they place on some of the interests at the five percent significance level. These interests are sports and hiking for the tour participant group, and arts and crafts for the independent tourists. The composition of sex was also significantly different among the pre-visit and post-visit independent tourist group at the five percent significance level.

Assuming the equality of the surveyed pre-visit and post-visit populations, a Chi-square analysis revealed tourists' experience on the island lead to an increase in appreciation of the natural environment and a decrease in the motivation of independent tourists to support environmental actions (Table 7). No change in the self-reported knowledge level of the natural environment was evident.

Table 7. P-values from Chi-square analysis of the null-hypothesis stating equal pre-visit and post-visit levels of knowledge of the natural environment, appreciation of the natural environment, and motivation to support environmental actions. Comparisons were made based on the number of observations reporting <5, 5, and >5 on a scale of 0 to 10.

* indicates the use of <=5 and >5 as categories due to the lack of observations reporting <5 and/or 5.

	Independent	Tour
Knowledge	0.243	0.151
Appreciation	0.1*	0.002*
Support	0.002*	0.123*

3.3 Volunteer Survey

The volunteer survey resulted in a response rate of 37.5% with 12 responses. Respondents consisted of eight females and three males (one unknown), with an average age of 54.9 years. All respondents were Australian, and had an average of 21.7 years doing volunteer work for the environment. All but one respondent has done some volunteer work in the past twelve months, with two respondents working over 140 days. Hiking and camping (average of 4.67 on a scale of 1 to 5) was by far the most important interest common across all respondents, while reading and writing (4.25) and socializing (4.00) also received high ratings. Sports was of relative low importance (2.18).

Table 8. Responses to the satisfaction of the experiences in the different aspects of volunteer work. Positive, neutral, and negative indicate the number of responses with each satisfaction category, while the average is the mean of the responses given on a scale of -3 to +3.

		positive	neutral	negative	average
Volunteer organizers:	Overall	10	1	0	2.27
	Thought provoking	7	4	0	1.36
	Interesting	10	2	0	1.92
	Stories	6	3	0	1.44
	Easily understandable	8	3	0	1.55
	Big picture	9	2	1	1.17
	Uniqueness & importance	11	1	0	1.83
General	Brochure	3	2	1	0.83
	Info boards	4	3	1	0.5

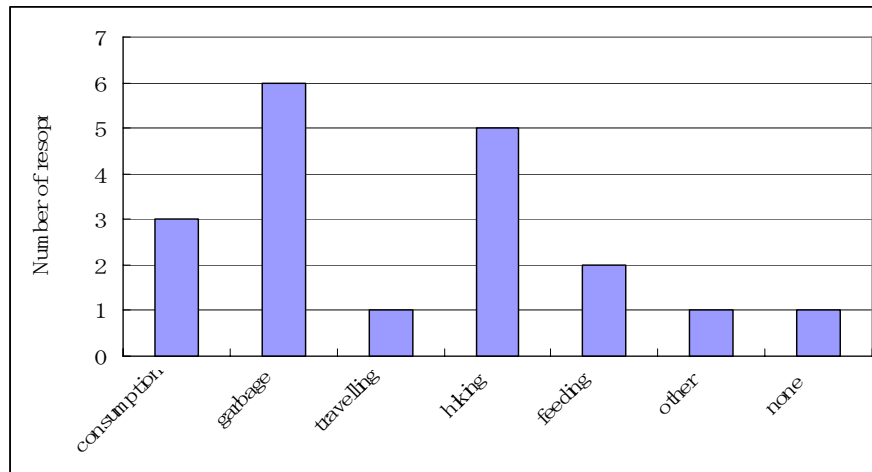
Physical activities	8	2	1	1.45
Nature	9	1	0	2.6
Wildlife	9	2	0	2.09
Socializing	6	5	0	1.09

Three reasons received high ratings as factors in the decision to do volunteer work in the environment. “Concern over the environment” ranked highest with a mark of 4.75 out of 5, followed by “to become better associated with the local environment” (4.33) and “to fulfill responsibilities to the environment” (4.25).

Satisfaction of the experiences with volunteer organizers was very high overall, with satisfaction of interesting facts and emphasis on uniqueness and importance marked highest amongst the different aspects of the volunteer organizer’s efforts. Brochures and information boards were only slightly satisfying, while the physical activities and socializing were moderately satisfying, wildlife highly satisfying, and the natural environment exceptionally satisfying on average (Table 8).

Self-reported increase in knowledge of the natural environment was significant, receiving an average of 4.08 on a scale of 5, while appreciation of the natural environment and motivation to support environmental actions increased moderately (3.67 and 3.5 respectively). Garbage disposal habits and hiking habits were mentioned most to be behaviors that the volunteers changed as a result of their experiences doing volunteer work (Figure 2).

Figure 2. Behaviors that the volunteers altered through their involvement in volunteer work.



Messages that the respondents received through their experiences volunteering concerned four main ideas: satisfaction of volunteer work, responsibility towards the environment, appreciation of the environment, and support towards environmental volunteers (Table 9). The messages seemed to reflect the reasons of the respondent’s involvement in volunteer work.

Table 9. Examples of some of the messages volunteers listed, and their message type.

Messages	Message type
That my assistance was appreciated. That the end result of the volunteer work would repair decades of misuse of the area involved.	satisfaction
I think I have seen how fragile Moreton Island is, and that wherever humans have disturbed the environment, it is an ongoing responsibility to limit damage by continually monitoring weeds etc. I have become aware of the danger of weed spread.	responsibility, awareness
Still a lot in the natural environment even when heavily disturbed to care about.	appreciation
Very little genuine appreciation of the value of volunteers, and support of their efforts, at the administrative level of government, despite the lip service.	lack of support

It's a privilege to be able to do some practical thing to help, since we get so much from wild places, and they need our protection. Also great to learn from people with scientific knowledge. I think there is a lot of general support in the community which is mostly unheard and inactive/	satisfaction, responsibility, support
Volunteers provide continuity of purpose compared to government employees	purpose

4 Discussion

4.1 Park Management, MIPC, and Tour Operators' Views

The environmental issues recognized by park management and conservation group did not necessarily match those perceived by tour operators. Appropriate fire management scheme and human induced erosion were two major issues mentioned by the former EPA employee not mentioned by any Moreton Island tour operator, while pollution from outside of the park reaching the island was an issue raised by an operator not mentioned by the EPA or MIPC side. It is imperious that the perceptions on the environmental issues match between the park management, conservation groups, and tour operators if ecotourism is to realize its goal of educating the tourist as mentioned by the operators. Further cooperation between the three parties is essential, and consultations held in producing the Moreton Island Management Plan and the operators' mention of hopes of more stakeholder input in the management of the island are positive signs for the future. However, it is interesting to note that negative impacts of tourism were mostly attributed to independent tourists by tour operators and that this sense of tour operations doing a good job minimizing their impacts was also shared by the former EPA employee.

4.2 Commercial Tours' Influence on Tour Participants

The results of this study are inconclusive in the effectiveness of tour operators' ability to influence tour participants. The two populations surveyed before and after their visits to Moreton Island had statistically significant difference in interests, which may make any comparison unviable. However, in face of lack of published reports found studying the effects of interests on knowledge, appreciation, and support for the environment, comparisons were made between the two surveyed groups.

The lack of statistically significant difference in the pre-visit and post-visit levels of self-reported knowledge is of primary concern. Education was one of the most often mentioned aspects of ecotourism by the tour operators, and the results indicate their inability to accomplish this task. However, it must also be noted that even while the tour operators recognized their tours to be an ecotour, and raised education as an integral part of ecotourism, their mention of emphasized topics were mostly of their own actions and the potential impacts of tourist behavior as opposed to knowledge of the natural environment. Considering the higher response rates of tour participants than independent tourists on intended behavioral changes, the tour operators may have been successful in their intentions. This is also supported by the fact that garbage disposal and travelling habits, two very visible aspects of tourism on Moreton Island, received the greatest number of responses.

Reported levels of appreciation of the natural environment before and after the experiences on Moreton Island presents an interesting case. A greater percentage of tour participants claimed the natural environment and wildlife as aspects of their visits to look forward to in comparison to independent tourists, and they were the only tour group to show a significant increase in appreciation of the natural environment. The importance of pre-visit

interpretation in forming the expectations of tourists have been mentioned in literature (Weaver, 2008), and this result raises the possibility of expectations influencing experience. The tour participants hoped to see the natural environment of Moreton Island, and in having their wishes fulfilled as seen by the high satisfaction levels, their appreciation may have increased. Increase in appreciation of tour participants is also supported by the number of responses mentioning the beauty of the island as the message they perceived.

One interesting result that became apparent from the ratings of satisfaction and enjoyment of the different aspects of the tourism experience is the very low satisfaction and relatively high percentage of positive enjoyment seen in the guides' relating issues back to the tourist's home region. This aspect of tourism was the only one that received this type of response, and it may be an indication that tourists enjoy and would like the guides to relate back to their home region in the tours.

4.3 Implications of the Volunteer Survey

Direct comparisons of the effects of tourism and volunteering on the knowledge, appreciation, and support of the environment are not possible due to the difference in survey structures. Yet, while commercial tours did not increase the knowledge of tour participants, volunteers reported that their experiences in volunteer work increased their knowledge of the natural environment the most among the three. This may be a result of the nature of their experiences, having to learn the names and appearance of certain flora and fauna at the very least in order to perform the tasks of weeding, seagrass surveying, etc. that they participated in. Also, Gennings (2009) mentioned active learning takes place as individual volunteers point things out to others as it catches their eye, and an expert in the area is present to give more details on it.

As with the tour participants, the messages that volunteers take away from their

experiences seems to be reflected in their original reasons for participation. Webpages of tour operations rarely included information on the environmental issues and processes of the area of operation, but more emphasis on pre-experience interpretation may be needed to enhance the effectiveness of ecotourism.

5 Conclusion

Moreton Island is considered to be relatively undisturbed by man, but has its share of real and potential environmental problems. However, as one tourism operator mentioned during an interview, “Moreton Island is easily controlled” due to its small size and limited access options. Tourism plays a large role in the future of the mostly national park island, and aspects of ecotourism may help preserve this environment. More and better cooperation between the park management, tour operators, and conservation groups are important in order for all sides to adequately address any urgent issues, and to properly inform the visitors of the issues and their role as a tourist.

Tour operators may be minimizing their impacts to the best of their abilities while servicing their target tourist groups, but to realize the ecotourism that they termed and claimed to be, much change is needed. True understanding and appreciation of the values of Moreton Island can not be gained by a day of recreational activities that may be performed in other places. It is dangerous for tour operators and park managements to become comfortable with the current state of tour operations, and is advised that they continue their efforts to minimize impacts. It is also hoped that tour operators will either alter their tours to better fit their definitions of ecotourism, or to stop considering their tours to be an ecotour in order for the word to remain true to its ideals as possible. However, of the tourists surveyed, tour operations’ labeling as an ecotour was very rarely a factor in deciding to go on the tour, a potential sign that either there is a lack of market for ecotours on Moreton Island, a lack of

promotion of ecotourism, or a mismatch between the tour content and the ecotourists' desires.

The questions regarding effective interpretive methods on Moreton Island remain unanswered, and it will be the work of future studies to clarify them. Relating the experience to the home region of the tourist is one aspect of interpretation that was revealed in this study to have potential meaning. In-depth analysis of individual tours is recommended for assessing the different interpretive methods, and should focus on the differences in effectiveness among different ecosystems and among the different demographic segment of the tourists. It is recommended that if scales are to be used to rate the interpretive methods, at least a five point scale on the positive spectrum is incorporated. This is to prevent the clumping of responses under few positive categories that seen in this study, making correlations difficult to find. Future research is also needed to assess the environmental impacts of tour operations and tourists in general to further improve the sustainability of tourism on Moreton Island.

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Appendix I. Moreton Island Pre-visit Survey (Page breaks and response space have been changed to fit page)

This survey is part of a study for credit by the School for International Training. Your input will be confidential and be used to assess the effectiveness of ecotourism methods. Thank you for your time and cooperation.

1. Please rate your level of knowledge about the natural environment:

0: no knowledge 5: averagely knowledgeable 10: highly knowledgeable

0 1 2 3 4 5 6 7 8 9 10

2. Please rate your level of appreciation towards the natural environment:

0: no appreciation 5: average appreciation 10: high appreciation

0 1 2 3 4 5 6 7 8 9 10

3. Please rate your level of motivation to support environmental actions:

0: no appreciation 5: average appreciation 10: high appreciation

0 1 2 3 4 5 6 7 8 9 10

4. Do you currently belong to any environmental groups?

5. Please rate the following in terms of importance to you

1: not important 5: very important

Sports	1	2	3	4	5
Pets	1	2	3	4	5
Hiking/camping	1	2	3	4	5
Arts & crafts	1	2	3	4	5
Reading and writing	1	2	3	4	5
Gardening	1	2	3	4	5
Socializing	1	2	3	4	5
Travelling	1	2	3	4	5

6. What is the name of the tour, if any, that you are participating in?

7. What was your main reason for choosing to go on this tour?

a. location b. price c. ecotour label d. customer reviews

e. natural values of the area f. cultural values of the area

g. activity (please specify _____)

h. other (please specify _____)

8. What are you looking forward to most about your visit?

a. physical activities (hiking, snorkeling, etc.) b. being surrounded by nature

c. seeing wildlife d. learning opportunities e. socializing f. camping

g. other (please specify _____)

9. What are your age, sex, and nationality?

Thank you for taking the survey!

I hope you enjoy your time on Moreton Island!

Appendix II: Moreton Island Post-visit Survey (Page breaks and response space has been changed to fit page)

This survey is part of a study for credit by the School for International Training. Your input will be confidential and be used to assess the effectiveness of ecotourism methods. Thank you for you time and cooperation.

1. Please rate your level of knowledge about the natural environment:

0: no knowledge 5: averagely knowledgeable 10: highly knowledgeable

0 1 2 3 4 5 6 7 8 9 10

2. Please rate your level of appreciation towards the natural environment:

0: no appreciation 5: average appreciation 10: high appreciation

0 1 2 3 4 5 6 7 8 9 10

3. Please rate your level of motivation to support environmental actions:

0: no motivation 5: average motivation 10: high motivation

0 1 2 3 4 5 6 7 8 9 10

4. Do you currently belong to any environmental groups?

5. Please rate the following in terms of importance to you

1: not important 5: very important

Sports	1	2	3	4	5
Pets	1	2	3	4	5
Hiking/camping	1	2	3	4	5
Arts & crafts	1	2	3	4	5
Reading and writing	1	2	3	4	5
Gardening	1	2	3	4	5
Socializing	1	2	3	4	5
Travelling	1	2	3	4	5

6. What is the name of the tour, if any, that you participated in?

7. Please circle your level of satisfaction of the following:

n/a: did not experience -3: highly dissatisfied 0: neutral 3: highly satisfied

Tour guiding: overall	n/a	-3	-2	-1	0	1	2	3
- thought provoking	n/a	-3	-2	-1	0	1	2	3
- interesting facts	n/a	-3	-2	-1	0	1	2	3
- stories that you can relate to	n/a	-3	-2	-1	0	1	2	3
- easily understandable	n/a	-3	-2	-1	0	1	2	3
- presented the “big picture”	n/a	-3	-2	-1	0	1	2	3
- relating to your home region	n/a	-3	-2	-1	0	1	2	3
- emphasis on uniqueness & importance	n/a	-3	-2	-1	0	1	2	3
Brochures	n/a	-3	-2	-1	0	1	2	3
Information boards/ signs	n/a	-3	-2	-1	0	1	2	3
Physical activities (hiking, snorkeling, etc.)	n/a	-3	-2	-1	0	1	2	3
Natural environment	n/a	-3	-2	-1	0	1	2	3
Wildlife	n/a	-3	-2	-1	0	1	2	3
Socializing	n/a	-3	-2	-1	0	1	2	3
Camping	n/a	-3	-2	-1	0	1	2	3

8. Please place an X over the level of enjoyment of the above activities.

9. Is there any behavior that you would change as a result of your participation in the tour?

Please specify in the space below.

a. consumption

b. garbage disposal

c. travelling habits

d. hiking habits

e. feeding of wild animals

f. other

10. What is the message you received through participating in this tour?

11. What are your age, sex, and nationality?

Thank you for taking the survey!

Your participation is greatly appreciated.

6. How important were the below factors in your decision to volunteer?

Please place an asterisks next to the single most important factor.

0: not a factor 1: very minor factor 5: very big factor

Learn more about the environment	0	1	2	3	4	5
Meet new people	0	1	2	3	4	5
Fulfill responsibilities to the environment	0	1	2	3	4	5
Had some free time	0	1	2	3	4	5
Concern over the environment	0	1	2	3	4	5
Become better associated with the local environment	0	1	2	3	4	5
Other: _____	0	1	2	3	4	5

7. Please rate your experiences in the following aspects of volunteering:

n/a: did not experience -3: highly dissatisfied 0: neutral 3: highly satisfied

Volunteer organizers: overall	n/a	-3	-2	-1	0	1	2	3
- thought provoking	n/a	-3	-2	-1	0	1	2	3
- interesting facts	n/a	-3	-2	-1	0	1	2	3
- stories that you can relate to	n/a	-3	-2	-1	0	1	2	3
- easily understandable	n/a	-3	-2	-1	0	1	2	3
- presented the “big picture”	n/a	-3	-2	-1	0	1	2	3
- emphasis on uniqueness & importance	n/a	-3	-2	-1	0	1	2	3
Brochures	n/a	-3	-2	-1	0	1	2	3
Information boards/ signs	n/a	-3	-2	-1	0	1	2	3
Physical activities	n/a	-3	-2	-1	0	1	2	3
Natural environment	n/a	-3	-2	-1	0	1	2	3
Wildlife	n/a	-3	-2	-1	0	1	2	3
Socializing about the environment	n/a	-3	-2	-1	0	1	2	3
Other: _____	n/a	-3	-2	-1	0	1	2	3

8. Please place an X over the level of enjoyment you felt towards the above aspects of your volunteer experience..

9. Is there any behavior that you have changed as a result of your participation in volunteering?

Please specify in the space below.

- a. consumption b. garbage disposal c. travelling habits
d. hiking/camping habits e. feeding of wild animals f. other

10. What is the message you received through participating in volunteering?

11. What are your age, sex, and nationality?

*Thank you for taking the survey!
Your participation is highly appreciated.*