## Tourists' Visual Perceptions of Forests and Forest Management in Vancouver Island and Tasmania

by

Kyle W. Hilsendager

M.Env.Mgmt., University of Tasmania, 2006

B.A., University of Alberta, 2004

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## Abstract

In the past, forested areas have been used primarily for timber production. However, the recent growth of nature-based tourism has given monetary value to the recreation and scenic characteristics associated the forests in many places. This can lead to conflicts between forestry and tourism raising questions relating to the management of these two industries. What impact does forestry have on the perception of tourists in region's that promote natural landscapes? Are certain tourist segments affected differently by the impacts of forestry in regions that market natural landscapes? How can forests be managed to ensure that tourism values are not compromised by other forest interests?

To gain a better perspective of tourism and forestry related conflicts this investigation utilized a comparative case study method. The case study locations selected include Vancouver Island, Canada and Tasmania, Australia. At each destination visitors were surveyed at three types of attractions to understand differences in forestry perceptions between user groups. Forestry and tourism professionals from both regions were also interviewed. Vancouver Island and Tasmania were chosen because of the important role that both forestry and nature-based tourism play in shaping the economies of both places. Despite these similarities, differences exist in the way these two industries are managed. These differences were important for providing insight into management strategies that could be used to address these conflicts.

Results suggest that forestry impacts have the potential to negatively impact upon visitor perceptions. However, this seems partly dependent upon the type of impact observed, as differences were noted between harvested areas, tree plantations, logging trucks and saw/pulp mills. Results from the different sample groups were compared to learn whether or not differences exist in the way that tourist user groups are affected by exposure to forestry impacts. Findings provided a limited amount of evidence to support this. Through the analysis of the semi-structured interviews a set of recommendations were developed to help assist forestry and tourism managers who may be dealing with similar land use conflicts. These recommendations would be useful for land managers in other jurisdictions where similar conflicts between forestry and tourism exist.

## Preface

Data collection instruments (questionnaire and interview script) required ethics approval. This was obtained from the UBC Behavioral Research Ethics Board. The number for the ethics certificate that was obtained is H12-00999.

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## Chapter I Introduction

### I.I Context and Rationale

Often described as the world's largest industry (Robinson, 2001), tourism is somewhat difficult to define in absolute terms (McKercher, 1996). However, Williams & Shaw (2009) define tourism as spending at least 24 hours away from home for leisure purposes, whereas recreation refers to activities that are undertaken for pleasure. Therefore, recreation can take place without it being considered tourism (e.g. at home). However, tourism generally involves recreation activities of some description since leisure is the primary purpose of tourist activity. One of the fastest growing sectors of the industry is nature-based tourism (Kuenzi & McNeely, 2008). Like tourism itself the nature-based tourism sector is also somewhat difficult to define since nature-based tourists are such a diverse group. Valentine (1992) states that nature-based tourism is mostly concerned with the direct enjoyment of undisturbed aspects of nature. However the extent to which nature is the focus of activities can vary. Therefore, three types of nature-based activities have been proposed. These include experiences that are dependent upon nature, experiences that are enhanced by nature and experiences for which a natural setting is incidental (Mehmetoglu, 2007).

Sustainable forest management requires decision-makers to balance a range of ecological, social and economic values (Sheppard & Meitner, 2005). This can be attributed to increasingly

diverse forest interests that commonly include tourism and recreation values (Williams, Penrose & Hawkes, 1998; Campos, Caparros & Oviedo; 2007). Because competing stakeholders often have substantial differences in their attitudes toward the use of natural areas, their management preferences may differ, often resulting in conflict (McKercher, 1992). As a result, multiple-use forest management has emerged as an important approach for forest managers. This type of management philosophy generally requires trade-offs to be made between regularly conflicting management objectives in order to achieve multiple-use forest management goals (Racevskis & Lupi, 2006).

To help address conflicts surrounding forest resources, the concept of sustainable forest management (SFM) has broadened traditional forest management to explicitly include economic, environmental, cultural and social dimensions of sustainability (Castaneda, 2000). The Statement of Forest Principles was developed in 1992 at the United Nations Conference on Environment and Development (UNCED) to help address these new philosophies and concepts (McDonald & Lane, 2004). Since this time a number of countries throughout the world have developed criteria and indicators to measure and monitor success in sustainable forest management (Siry, Cubbage & Ahmed, 2005). Some examples of international initiatives include the Montreal Process, the Tarapoto Proposal and the Pan-European Forest Process (Castaneda, 2000). In addition to these initiatives, national and regional legislation and policies that address SFM have been implemented in various places, including the British Columbia Forest and Range Practices Act (2004), Canadian Council of Forest Ministers Criteria & Indicators of Sustainable Forest Management (2006), Tasmania Forest Practices Code (Forest Practices Board, 2000) and the UK Forestry Standard (Forestry Commission, 2004).

Despite the attempts to consider multiple aspects of forest management, one could argue that SFM has a number of limitations. For example, tourism is often unaccounted for in SFM plans, despite the industry's potential to contribute to economic, environmental and social sustainability goals. A study by Harshaw, Sheppard & Lewis (2007) reviewed eleven forest certification and standard programs representing four levels of forest management jurisdiction (international, national, regional and private/local). Findings revealed that tourism has generally been poorly addressed in most SFM frameworks. For example, The Montreal Process Working Group (2007) addresses tourism in the context of recreation. However, the three indicators given for

tourism are indistinguishable from the recreation indicators. Even though tourists often engage in outdoor recreation, it is important to make distinctions between the two since tourists are much more than just outdoor recreationists. Tourists tend to differ from outdoor recreationists in terms of their expectations, travel patterns and economic contributions to the regions they visit (McKercher, 1996).

This lack of focus on tourism in SFM criteria and indicator frameworks is significant because forestry and tourism values have the potential to conflict with one another (McKercher, 1992; Wilson, 1998; Tourism Industry Council of Tasmania, 2007). Traditionally, forested land has been considered to be of lower economic value than agricultural land, which has resulted in these areas being used primarily for timber production (Font & Tribe, 2000). However, many landholders and public agencies have turned to nature tourism and recreation to help supplement or replace economic activities such as farming or forestry (Buckley, 2003). This demonstrates the increasing influence that the tourism industry has had on land management decision making. Therefore, forestry and tourism managers must work together to balance the needs of timber production with those of the tourism industry. This is especially true when one considers the growing economic potential that the nature tourism sector can bring to a region (Buckley, 2003). Given the growth of nature-based tourism in forested areas and the need to balance competing interests, it is important that issues relating to tourism are addressed within SFM frameworks.

### **I.2 Research Problem**

In many places the forest industry is the target of criticism from environmental groups, politicians and the media. This opposition generally relates to a range of environmental issues that are associated with the industry such as the harvesting of old growth or ecologically significant forests, the development of logging roads, threats posed to native species and sustainability of harvesting techniques (Shindler, Brunson & Stankey, 2002). Although much criticism does originate locally, issues related to forest management can also receive negative attention nationally and internationally. For example, the Clayoquot Land Use Decision in British Columbia, Canada was reached in 1993 that authorized the harvesting of two-thirds of the area's forests. The plan sparked public outcry and resulted in large scale protests and the

arrest of over 800 demonstrators (Magnusson & Shaw, 2002). This high profile conflict received global attention and led to condemnation from a range of critics that included international and local media, international politicians and celebrities (Wilson, 1998). In addition to this, protests have been held at Australian embassies in the United States, Canada, Japan and United Kingdom to decry the destruction of old growth forests in the island state of Tasmania (Rainforest Action Network, 2006). This is the type of attention that can lead to negative perceptions, which may ultimately impact the forestry industry.

Not only do public perception issues have the potential to negatively impact the forest industry, they could also have negative effects for other sectors that rely on forested landscapes, such as tourism. This is particularly true for regions that promote natural landscapes and outdoor activities to attract visitors to local communities (McKercher, 1992). Examples of countries that use these types of images to promote tourism include Canada, Australia and New Zealand (New Zealand Ministry for the Environment, 2001). This can be seen in marketing campaigns such as 'Supernatural British Columbia' (Tourism British Columbia, 2010), '100% Pure NZ' (Morgan, 2002) and 'Pure Tasmania' (Pure Tasmania, 2010). Because these places use the natural environment to attract visitors, it is likely that they are particularly vulnerable to the negative perceptions that are often associated with forestry impacts.

There have been situations in the past where tourism operators have expressed concern over the impact that forestry has on their product. Much of the local opposition directed at forestry in the Clayoquot Sound area can be traced to the importance of tourism in this region. Some of the most active members of the Friends of Clayoquot Sound (FOCS) organization were employees or owners of tourism businesses with a stake in maintaining the natural beauty of the area. These include whale-watching charters, kayak rental stores, restaurants and hotels (Wilson, 1998). Similarly, the proposed Bell Bay Pulp Mill in Tasmania has sparked significant concern from the state tourism industry. A survey conducted by the Tourism Industry Council of Tasmania (2007) revealed that 58% of Tasmanian tourism operators believe that the pulp mill would have a negative effect on the Tasmanian brand. It could be argued that proposed developments such as these could violate current SFM principles if they appear to neglect any of the four SFM dimensions (economic, environmental, cultural, social). Therefore, it is important for decision-makers to consider potential implications of resource development near areas that rely on the natural environment to attract tourists. This raises the question of how these two industries can be managed to reduce the impact that forestry activities can have on tourism image in destinations that promote the natural environment.

#### I.2.1 Research Questions

Based upon the above research problem the following three questions have been developed to frame this research.

1. What type of impact can forestry have on the perception of tourists in regions that market the natural environment and the outdoor activities that take place in these settings?

Destination image can be described as an expression of the knowledge, impressions, prejudice, imaginations or emotions that an individual has for a particular place. Past research has shown that the most negative evaluation of a destination occurs when a positive pre-trip destination image is followed by a negative visitor experience (Jenkins, 1999). In addition to this, numerous studies have documented public displeasure with the visual impacts associated with forestry in both British Columbia and Tasmania (e.g., Picard & Sheppard, 2001; British Columbia Ministry of Forests, 2003; Ford, Williams, Bishop & Webb, 2009). Thus, one could assume that tourists are also sensitive to the visual impacts associated with forestry. Therefore, a destination that promotes the natural environment is likely more vulnerable to the visual impacts associated with forestry than a destination that portrays a different marketing image. This is especially true if these visual impacts appear to contradict the tourism image being conveyed.

**Hypothesis** – Forest management practices that produce visible impacts on the landscape are likely to have a negative impact on the tourism image of regions that market the natural environment and outdoor activities that take place in these settings.

2. Are certain tourist market segments affected differently by the impacts of forestry in regions that market the natural environment and the outdoor activities that take place in these settings? Past studies has shown that setting preferences often differ between tourist market segments (Paquet & Belanger, 1997; Hunt, Twynam, Haider & Robinson 2000). Research has also demonstrated that certain personal characteristics can influence how individuals perceive environmental quality. These include socio-economic status, cultural background and past experiences (Petrosillo, Zurlini, Corliano, Zaccarelli & Dadamo, 2007). Similarly, these types of individual characteristics also play a role in the formation of tourist expectations and preferences (Beerli & Martin, 2004a). Therefore, one might expect that certain tourist market segments may respond differently than others to the visual impacts that they encounter while visiting destinations that market the natural environment.

**Hypothesis** – Tourist market segments that tend to be most attracted to natural landscapes are more likely to have their perceptions negatively affected by forest industry impacts than tourist market segments that are attracted by other aspects of a destination.

3. How can forests be managed to ensure that tourism values are not compromised by other forest interests in regions that market the natural environment and the outdoor activities that take place in these settings?

According to Gundersen & Frivold (2008) numerous studies have demonstrated that large unnatural openings associated with clear-cuts tend to be viewed negatively by the public. Research has also shown that tourists tend to be less accepting of landscape alteration than local residents (British Columbia Ministry of Forests, 2003; British Columbia Ministry of Forests and Range, 2006). However, planning which considers tourists landscape preferences can provide benefits to the tourism industry (Tyrvainen, Silvennoinen & Nousiainen, 2002). If forestry developments are planned in ways that reduces visitor exposure to obvious forestry impacts, tourists may be less likely to develop negative images associated with the forest industry. It is also expected that this research will also lead to the development of additional measures that can be used in tourism to reduce the impacts that forestry can have on destination image.

**Hypothesis** – Forest management policies and frameworks that reflect the landscape preferences of nature-based tourists will help to reduce the likelihood that recreation and tourism values will compromised by other forest interests in regions that market the natural environment and the outdoor activities that take place in these settings.

#### **I.2.2 Research Objectives**

This research will address three main objectives. Firstly, information will be obtained relating to the potential impacts that forest practices can have on destination image. Ways in which forestry may affect different market segments will also be examined. This will be done by comparing Vancouver Island and Tasmania. These two places have been identified as case study locations because they both rely on forestry and tourism to create employment. In addition to this, the destination image of both regions is heavily influenced by the natural environment and the outdoor activities that take place there.

Secondly, this research will provide benefits to governments in places where forestry and tourism conflict with each other. The development of conflict reduction strategies will provide governments with tools that can be used to inform policies that better manage the competing interests of forestry and tourism. Information will also be obtained that can be applied to other situations where governments must deal with conflicts between tourism and resource development industries. For example, tourism could potentially face similar threats from other industries, such as mining, electrical power generation or oil and gas development. Therefore, conflict reduction strategies developed in this research could be applied to other situations where tourism is threatened by resource development.

Finally, this research will make contributions to existing tourism and forest management literature by exploring, applying and synthesizing relevant theories that have been developed in past research. Examples of theories that will be addressed in this particular research include sense of place (Cheng, Kruger & Daniels, 2003), tourist gaze (Urry, 2002), tourist motivation (Yoon & Uysal, 2005), destination image (Gallarza, Saura & Garcia, 2002) and various concepts relating to public perception of forest management practices (Ribe, 2006; Ford, Williams, Bishop & Webb, 2005). These theories will be discussed in detail in the following section. Along with these theories, new concepts relating to environmental and resource use conflict management will be developed. Lastly the relationships between forestry and tourism management policies will be analyzed and explained.

## **I.3 Study Area Descriptions**

Two study regions were selected for this research. Vancouver Island is located off the southwest coast of British Columbia. Both tourism and forestry are important industries throughout the island (Tourism British Columbia, 2009a). However, conflict has occurred between these two industries because Vancouver Island relies heavily on the natural environment to attract visitors (Wilson, 1998). This can be seen in many promotional documents that are distributed by the tourism industry. A wide range of outdoor recreation activities can be found throughout the region, ranging from very accessible 'soft eco-tourism' opportunities (e.g. short walks, whale watching, etc.) to more challenging pursuits that require a certain level of expertise (e.g. multi-day hikes, saltwater fishing, etc.). Additionally, there is a strong aboriginal history and culture throughout the region, which is also attractive to many tourists. Other types of sites popular with visitors include golf courses, vineyards, festivals and various city attractions (Tourism Vancouver Island, 2012).

Located off the southeast coast of Australia, Tasmania also relies heavily on both forestry and tourism to create employment (Felmingham, Poate & McMahon, 2009). Like Vancouver Island, the potential for conflict also exists between these two industries in Tasmania, due to the important role that the natural environment plays in attracting visitors. It is these natural settings that provide the backdrop for a number of outdoor activities that are popular with tourists, such as hiking, kayaking, wildlife observation and fishing. Tasmania is also famous for its rich convict history, with Port Arthur being its most famous convict heritage site. Other types of tourist attractions that are popular with visitors include vineyards, markets, boat cruises and a variety of city attractions (Tourism Tasmania, 2009).

There were three main factors that influenced the selection of these two study regions: (1) both regions rely heavily on a tourism industry that promotes the natural environment and outdoor activities that take place in these settings; (2) forestry, which is also a dominant industry in both regions, relies on the resources found within these settings and (3) investigator's familiarity with forestry and tourism related issues in both study regions. Despite the similarities that exist between these two regions, there are also many differences in terms of how land use is managed. It is these differences that are likely to provide the most insight into the ways that

conflict can be reduced between forestry and tourism in regions that market the natural environment to potential visitors.

#### I.3.1 Vancouver Island

Covering an area of approximately 31 000 km<sup>2</sup> (Natural Resources Canada, 2007), Vancouver Island can be easily accessed by a ferry trip of approximately two hours from metropolitan Vancouver. Alternatively, visitors can also access the island by commercial or charter flights, with airports in major centers such as Victoria and Nanaimo, as well as smaller hubs including Comox and Campbell River. With a population of roughly 750 000, Vancouver Island relies heavily on the tourism industry as demonstrated by the more than 20 000 people employed in the industry in 2011 (Tourism British Columbia, 2012, p.52). It is also home to the most tourism related businesses and generates the most revenue from tourist overnight accommodation in British Columbia, outside of the Vancouver region (Tourism British Columbia, 2009a). When surveyed about their primary motivations for visiting Vancouver Island 28% of all leisure visitors identified 'scenic beauty' as their primary motivation (Tourism Vancouver Island, 2008, p.22), which speaks to the important role that the natural environment plays in attracting tourists to the region.

The natural settings of Vancouver Island provide visitors with a variety of different front- and back-country recreation opportunities. One of the most well known outdoor attractions in the region is the West Coast Trail, which provides walkers with a challenging multi-day trek through the temperate rainforest on the Pacific Coast. There are also numerous shorter hikes available, as well as trails that can accommodate other activities such as cycling and horseback riding. Many activities that take place on water are also popular with tourists. Saltwater fishing is an activity that attracts many visitors, due to the high number of charter companies available and the diversity of species that can be caught in the waters surrounding Vancouver Island. Other water-based activities include kayaking, canoeing, sailing diving and whale watching. In addition to the many outdoor activities available, visitors are also attracted by the many charismatic wildlife species that inhabit the region including bears, eagles, cougars and elk (Tourism Vancouver Island, 2011). With such a range of outdoor recreation activities available it is easy to see why the maintenance of environmental quality is so important for Vancouver Island's tourism industry.

As important as the tourism industry is to Vancouver Island, forestry also provides significant employment throughout this region. In 2007 the industry provided 6500 residents of the Vancouver Island/Coast region with employment. This number dropped to 2800 individuals during the 2009 economic downturn, but has since rebounded to about 5100 jobs as of 2012. Employment numbers in forestry tend to vary according to region with the North Island District being most reliant upon the industry (BC Stats, 2012). Unfortunately, the lack of regional industry statistics available to the public makes it difficult to estimate the total economic output of this industry for the Vancouver Island region. However, the estimated GDP of British Columbia primary industries as a whole is depicted in Figure 1.



Figure 1. Real GDP of BC's primary resource industries (Tourism British Columbia, 2012, p.20)

Despite forestry's strong presence in the Vancouver Island economy, it has often been the target of criticism. The most notable conflict occurred in Clayoquot Sound and received international media attention during the early 1990's (Magnusson & Shaw, 2002). However, another large-scale forestry conflict occurred south of Clayoquot in the Carmanah Valley only a few years before the Clayoquot controversy. After the discovery of what was thought to be Canada's largest tree within a MacMillan Bloedel Tree Farm License located in the Carmanah Valley, it was revealed that the company had plans to log part of the area. This resulted in rallies being held at the Provincial Legislature and on logging roads leading in to the area. This conflict ultimately led to the creation of the Carmanah Pacific Provincial Park in 1990 (Hanna, Negrave, Kutas & Jojkic, 2008). However, conflicts in these forests continued with protests being held in the nearby Walbran Valley beginning in 1991. This resulted in expansion of the original park,

which became the Carmanah Walbran Provincial Park 1995. Like Clayoquot Sound, the Carmanah-Walbran conflict also gained international media attention with protest vigils being held outside the parent offices of Fletcher Challenge in New Zealand (Stanbury, 2000). Environmental conflicts that receive attention internationally could potentially impact upon a region destination image, due to the international context that characterizes this industry. This is especially true for regions that promote the natural environment. Therefore, a reduction in these types of conflicts is likely to have positive implications for destinations that are known for their natural features.

#### I.3.2 Tasmania

With a land area covering about 68 000 km<sup>2</sup> the island state of Tasmania is located roughly 240 kilometers south of mainland Australia (TPWS & DTPHA, 2004). It can be accessed from Melbourne by a flight of approximately 1 hour or a ferry trip which generally takes between nine and eleven hours. However, due to the vast difference in travelling times between these two modes, tourists more commonly fly to Tasmania, with approximately 740 000 air arrivals and 125 000 sea arrivals in 2011 (Tourism Tasmania, 2012). The tourism industry plays a prominent role in the Tasmanian economy employing 6.1% of the state's 500 000 residents (Australian Bureau of Statistics, 2009). The industry contributes about 4.9% to the total Gross State Product of Tasmania, which is well above tourism's national share of Australia's Gross Domestic Product of 3.7% (Tourism & Transport Forum, 2009). With almost 330 000 tourists visiting Tasmanian national parks in 2011 and many others participating in outdoor activities elsewhere, the natural environment plays a vital role in shaping the image of Tasmania's tourism industry (Tourism Tasmania, 2012).

About one third of Tasmania is contained within reserves that are managed by the Parks and Wildlife Service (Department of Primary Industries, Parks, Water & Environment, 2011) with additional reserves being managed by Forestry Tasmania (Forestry Tasmania, 2012). Therefore, it is often referred to as 'Australia's Natural State' (Tourism Tasmania, 2008), as the region natural environment provides an important backdrop for numerous outdoor activities that are popular with tourists. The Overland Track is considered to be Australia's most iconic 'bushwalk' and provides hikers with a challenging, multi-day trek through Cradle Mountain-Lake St. Clair National Park. There are also many other options for both short walks and overnight

hikes that can be found throughout the state. Along with the many hikes available, an abundance of unique wildlife species, including penguins, platypus and Tasmanian devils provide visitors with nature-based experiences that are distinct to Tasmania. Other outdoor activities popular with tourists include both freshwater and saltwater fishing, kayaking and diving (Tourism Tasmania, 2009). Because so many attractions in Tasmania rely upon the natural environment, the maintenance of environmental quality is likely to be a critical element in the preservation of the state's image as a leading nature-based tourist destination.

Despite the importance of tourism, forestry has also made significant contributions to the Tasmanian economy. In 2008 the industry was responsible for generating 2.8% of Tasmania's Gross State Product (Felmingham et al., 2009, p. 16). With an estimated 6300 people employed in the forest industry (Shirmer, 2008, p. 54), this sector represented about 3.1% of the state's employed labor force in 2006 (Shirmer, 2008, p.59) making it one of Tasmania's most important industries. Dependence on the forest industry in Tasmania varies considerably depending on the region, with rural areas generally being more reliant upon it. For example, 32% of the workforce in the Derwent Valley Local Government Area (LGA), 23% in the Dorset LGA and 19% in the Kentish LGA were employed in forestry in 2006 (Shirmer, 2008, p. 25), This suggests that rural areas are most likely to experience the most significant impacts if there are any changes or disruptions to the forest industry. Despite the recent strength of this sector, it has experienced significant declines in recent years beginning in 2008, which can be attributed to a variety of factors. Between 2008 and 2010 employment in the industry fell by one third with over 2300 jobs being lost (Shirmer, 2010, p. 2). This can be attributed to a variety of factors including the global financial crisis, reduced investments in plantations and successful campaigns by environmental organizations to reduce the demand for woodchips coming from the state (Shirmer, 2010). Since 2010 these declines have continued, leaving current forest industry in Tasmania struggling to remain viable.

Even though the forestry industry makes significant contributions to the Tasmanian economy, it often comes under scrutiny from the public, with many notable forestry related conflicts taking place in recent decades. The Tasmanian Wilderness Society was founded in 1976 in response to the flooding of Lake Pedder four years earlier. After a successful campaign to save the Franklin-Gordon River from being dammed in 1983, the organization's focus shifted to

protection of the state's forests. This has led to numerous high-profile campaigns that have included road blockades, tree-sits and public rallies against many forest industry related developments (Gee, 2005). One the most controversial issues relating to the Tasmanian forest industry during this time is the harvesting of old-growth forests, which has led to conflicts in places like the Weld Valley, Styx Valley, Blue Tier and Tarkine regions (Affolderbach, 2011). However, pulp-mill developments have also become the target of environmentalist groups in Tasmania with a successful campaign against the Wesley Vale pulp mill construction in 1989 and another campaign against the proposed Bell Bay pulp mill, which is currently ongoing (Tranter, 2009). These types of conflicts have the potential to damage Tasmania's tourism image, due to the industry's reliance on the natural environment. Therefore, steps should be taken to minimize conflict and foster cooperation between forestry and tourism, as this would likely provide benefits to both industries.

## **I.4 Organization of Thesis**

The following chapters will detail relevant theories surrounding this research, as well as present the results and implications arising from this investigation. Chapter 2 reviews the relevant literature from the fields of tourism and natural resource management. These include tourist motivation, destination image, tourist gaze, environmental values, public perception and theories relating to forest management. Chapter 3 details the survey instrument design, development of interview topics and the sampling methods used. Chapter 4 presents the results from the surveys distributed in Vancouver Island, while Chapter 5 presents the results from Tasmania survey respondents. The sixth chapter will present the results from interviews that were conducted with forestry and tourism professionals in both Vancouver Island and Tasmania. Finally, Chapter 7 discusses practical implications from the results presents a set of management recommendations for natural resource managers who are dealing with similar conflicts between forestry and tourism.

## Chapter 2 Literature Review

## **2.1 Introduction**

Due to the nature-based tourism industry's reliance upon intact natural settings, it is important that forest management decisions incorporate a broader range of values than what was previously required. Although past investigations have examined the relationships between forestry and tourism, the impact that forestry can have on tourist perceptions in regions that market the natural environment has not been studied in significant depth. However, a considerable amount of research has been done on related topics, which have helped to provide a theoretical background for this study. Therefore, this chapter will review theories that include tourist motivation, destination image, tourist gaze/performance, environmental perceptions and sense of place. This will be followed by a section detailing some of the high profile environmental conflicts that have occurred in both Tasmania and Vancouver Island. Potential impact that these types of conflicts could have upon the tourism industry will also be discussed.

## 2.2 Tourist Gaze & Performance

Conceived by Urry (1990), the tourist gaze theory attempts to conceptualize the various objects that people gaze upon as tourists. According to Urry (2002), the objects that tourists expect to gaze upon are the images that are depicted in postcards and other forms of media, which differ

from those normally encountered in everyday life. Therefore, one might expect that these images play a significant role in the destinations that tourists choose to visit. However, when objects being gazed upon do not live up to the images portrayed, they are likely to have a negative impact on the tourist experience. Urry (1992) states that certain types of developments can visually contaminate an environment making it unsuitable for the tourist gaze. Hence, the preservation of visual quality in places frequented by tourists can potentially enhance the tourism value of a particular region.

The notion of tourist gaze suggests that the environment is not just passively observed, but also given meaning by the viewer. For example, tourists typically travel for leisure purposes and therefore view the world through what could be described as hedonistic cultural lens, which is much different than the way that local residents view the same areas. This ultimately helps to define the locality in relation to the degree to which expectations are met and leisure needs are fulfilled (Janes, 2008). If these expectations and needs are met, visitors are likely to consider their tourist experience to have been a positive one. Unfortunately, the inherent differences found among visitors can make tourism planning difficult, as pre-trip expectations and making attempts to direct tourists towards areas where their expectations are met could ultimately enhance visitor experience, resulting in positive benefits for the tourism industry.

The prevalence of instant communication and mass media in today's society means that tourist regions can easily convey certain types of images to help shape the pre-trip expectations of visitors. For example, England has become known as a destination to gaze upon scenes that depict history and heritage, such as Westminster Abbey (Urry, 2002). Vancouver Island and Tasmania also contain a wealth of images suitable for the tourist gaze. Many of the images from these places that are marketed to tourists include those showing natural features, such as coastlines, mountains and temperate rainforests. Even though natural features are suitable objects of the tourist gaze, it could be argued that the tourist gaze theory does not fully encapsulate the tourist experience for many visitors. This is because many tourists who visit these places, often do so to participate in active forms of touristic recreation. Therefore,

gazing is only one element of the tourist experience in these types of destinations (Perkins & Thorns, 2001).

In an attempt to address some of these shortcomings, the tourist performance theory was developed by Perkins and Thorns (2001). They argue that the tourist gaze theory is too passive since many tourist activities involve physical, intellectual and cognitive engagement, in addition to simply gazing. Therefore, a performance-based approach to interpreting tourism has been proposed to help improve understanding of changes in the international tourism market and address alternative forms of tourism. The diverse nature of the tourism industry has resulted in different groups of tourists frequenting different places, participating in different activities and ultimately being catered to by different elements of the tourism industry. Despite these differences, each tourist participates in a performance that includes aspects of the gaze, along with physical, intellectual and cognitive activities (Cloke & Perkins, 1998).

Because of the differing characteristics found amongst tourists and the attractions that they visit, the contextual nature of the tourist experience is essential for its interpretation. The tourist gaze theory has been criticized for its focus on the European perspective and associated historical, cultural and social experiences (Perkins & Thorns, 2001). However, places like Vancouver Island and Tasmania provide visitors with a more diverse tourist experience by offering a wide range of outdoor activities such as fishing, camping, walking, boating and diving. Therefore, the use of the tourist gaze theory in these contexts can only provide limited perspectives into the overall experience of visitors. However, incorporation of the tourist performance theory is likely to provide better insight into the factors that motivate tourists to choose certain destinations over others and the experiences that they hope to engage in while visiting these places.

## **2.3 Tourist Motivation**

Motivation is often described as an inner state that directs human behavior, which is based upon a drive to satisfy both physiological and psychological needs (Jang, Bai, Hu & Wu, 2009). In tourism research, motivation can be understood through two main constructs that attempt to explain why individuals travel. These are commonly referred to as 'push' and 'pull' factors.

These two forces explain how tourists are 'pushed' by motivation variables into making travel decisions (e.g. desire to escape) and how they are 'pulled', or attracted by certain characteristics of a particular destination (e.g. natural scenery). Therefore, push motivations can be understood as the internal or emotional aspects of travel decision making, whereas pull motivations are external to the individual and are aroused the by specific attributes associated with a destination (Yoon & Uysal, 2005; Jang, et al., 2009).

Push factors represent certain desires within individuals that are ultimately responsible for initiating the travel decision making process (Jang & Cai, 2002). Some examples of push factors that are common amongst tourists include the desire for escape, adventure, excitement, social interaction, rest and relaxation or health and fitness (Yoon & Uysal, 2005). Therefore, push factors tend to be intangible, intrinsic desires that originate away from the actual destination. Despite this, it is important to understand push factors, as specific attributes of a destination are likely to cater to certain types of intrinsic motivations more than others (Jang, et al., 2009). For example, a tourist seeking adventure and excitement is more likely to have these desires fulfilled at destinations that specialize in adventure activities as opposed to cultural heritage attractions. If tourism industry managers are able to identify common factors that motivate individuals to make certain travel decisions, they will be better equipped when it comes to providing experiences that satisfy the desires visitors.

In contrast to push factors, pull factors relate to the features or attributes of the destination itself (Kim, Lee & Klenosky, 2003). Pull factors tend to consist of tangible resources, such as attractions, activities and facilities, as well as the attractiveness of these resources in the eyes of the traveler. Once push factors have initiated a desire within an individual to travel, pull factors motivate them to choose a specific destination over others (Baloglu & Uysal, 1996). This decision tends to be based on the attractiveness of the destination, in terms of how likely it is to satisfy push motivations within the individual (Jang, et al., 2009). For example, a tourist that is hoping to experience new cultures is likely to be most satisfied visiting a destination with a local culture that is much different to their own. Therefore, the images associated with certain tourist destinations can play an important role in their overall success, due to their ability to attract those who are seeking specific types of experiences.

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### 2.4 Destination Image

Destination image is considered to be an important element to the success of a tourist destination, as it is often perceptions rather than reality that motivate individuals to visit specific places (Gallarza et al., 2001). Therefore, the general perceptions that tourists and local residents have of a specific place can potentially impact on its success as a tourist destination. This is why it is important to carefully manage the destination image that is presented to both tourists and residents in jurisdictions that promote outdoor activities and the natural environment.

Although the concept of destination image has many elements, it has been defined as an expression of all knowledge, impressions, prejudice, imaginations and emotions that a group or individual has for a particular place (Jenkins, 1999). Despite the simplicity of this definition, characterising a specific destination's image can prove to be quite difficult, as a tourism product, service or destination can be understood as a multi-item construct. This is due to the multiple attributes of a region that contribute to its overall image (e.g. quality of service, attractions, infrastructure, scenery, etc.). In addition to this, the concept is inherently subjective and can be analysed from a range of disciplines including anthropology, sociology, geography and marketing, adding even more complexity to the characterisation of a particular destination's image (Gallarza et al., 2001).

For the most part, tourists have idealized images of destinations. These tend to be developed through exposure to various media representations of these destinations (Mercille, 2005). In order to increase visitation, tourism industry managers try to promote images in ways that are likely maximize patronage (Sirgy & Su, 2000). Therefore, destinations that promote outdoor activities tend to depict individuals enjoying these activities amongst scenic landscapes. However, the degree of influence that images have upon visitor perception appears to vary between tourist market segments. According to Gallarza et al. (2001), distance plays an important role in the image formation process, as there seems to be a positive correlation between a tourist's distance from a destination and their degree of perception of it. For example, the greater distance travelled by a visitor tends to result in an increased distortion of reality. Image has also been shown to depend upon previous experience and degree of familiarity with a destination (Chen & Kerstetter, 1999). Therefore, it could be suggested that first time visitors

who have travelled a greater distance are more likely to be influenced by images portrayed in tourism promotion materials than a repeat visitor who has travelled a shorter distance.

According to Obenour, Groves and Lengfelder (1991), destination image has a number of distinct dimensions (e.g. nature, culture, activities) all of which are perceived differently by tourists. Therefore, a destination's image is composed of various products and attributes that combine to form an individual's overall impression. (MacKay & Fesenmaier, 1997). Because tourists evaluate potential destinations based on the types of leisure they would like to engage in (Ahmed, 1996), the activities and settings promoted have the potential to influence destination image. For example, destinations that promote outdoor recreation activities tend to project images associated with pristine natural settings, whereas the images associated with cultural destinations tend to emphasize various aspects of human development. Therefore, understanding a destination's dominant market segments is essential for providing the types of experiences that match the desires and expectations of visitors.

The image formation process involves the integration of various information sources that act independently of one another to form an individual's image of a specific destination. Along with distance and marketing, there are a number of personal characteristics that help to shape the image that a tourist has of a particular destination (Beerli & Martin, 2004b), including age, gender, education level and place of residence (Beerli & Martin, 2004a). This image is also partly formed by a combination of an individual's needs, motivations, prior knowledge and preferences (Beerli & Martin, 2004b). Therefore, tourism managers must account for a number of factors in their attempts to portray a destination in a way that is attractive to their target market. This is especially true since potential customers come from a wide range of different backgrounds and therefore possess a wide variety of personal characteristics.

The importance of destination image is widely acknowledged throughout the tourism industry. This is because a destination's image can affect an individual's subjective perception, consequent behaviour and ultimately destination choice (Gallarza et al., 2001). Destination image also has the potential to help shape the visitor experience and influence the degree of satisfaction that a visitor feels about their tourist experience. According to Jenkins (1999), the

most negative evaluation of a destination is likely to result from a positive pre-trip destination image, followed by a negative visitor experience (Figure 2). This is especially important because the image that tourists have of a destination after their experience will significantly affect the messages that they pass on by word of mouth. Therefore, it is extremely important to project an image that will be perceived to be accurate by visitors, since that is the image that sets the expectations and ultimately impacts the evaluation of a destination (Beerli & Martin, 2004a). If a significant number of visitors feel that their experience did not match the image that was marketed to them it could indicate flaws in the promotion campaigns of tourism operators and managers (Wee, Hakam & Ong, 1986).



Figure 2. Effects of destination image and visitor experience on post-visit evaluation. (*DI - Destination Image; Ex. - Experience*)

Due to the intangibility, subjectivity and complexity associated with the tourism experience, destination image can be a difficult concept to measure (Williams & Soutar, 2009). However, trip satisfaction has increasingly been described as the comparisons between pre-trip expectations and the degree to which these expectations were met at the actual destination (Jenkins, 1999; Bigne, Sanchez & Sanchez, 2001; Chen & Tsai, 2007). Because tourist expectations will vary between destinations, the factors likely to determine tourist satisfaction could also vary. For example, satisfaction for visitors to a nature-based tourism destination is likely to be determined by a completely different set of attributes (e.g. natural scenery, outdoor activities, remoteness) than tourists who are visiting a city (e.g. built attractions, social activities, convenience). Therefore, destinations must try to ensure that the experience that they provide is consistent with tourist expectations. Because expectations are shaped by tourism promotional material it is important that on-site conditions closely match the images that are promoted. Therefore,

destinations that promote natural attractions should ensure that they consistently present landscapes that appear natural and intact.

There are many factors that help to shape a destination's image. However, it seems as though the visual impacts associated with forestry could potentially affect the aesthetic qualities of certain destinations. This could have a negative effect on post-visit image and ultimately word of mouth promotion. This is especially true in places where the natural environment features heavily in the destination image that is promoted. Beerli and Martin (2004b) argue that an individual's pre-visit destination image is often much different than the image that they form post-visit. Because the pre-visit destination image is developed through secondary sources, such as brochures and websites, it tends to be less accurate than the image that is formed post-visit. Therefore, if an individual is exposed to tourism marketing material that promotes the natural environment, they may be more likely to develop a negative image, upon viewing land uses that they consider to be unsustainable. This could ultimately reduce the likelihood of return visits and positive word of mouth advertising from previous visitors.

## **2.5 Public Perception**

In many places the forestry industry faces a significant amount of public opposition. This can be attributed to a number of different causes. Even though timber production is viewed as a legitimate use of forest resources by most, there seems to be a desire for a better balance between commodity and non-commodity uses in forests amongst many members of the public (Shindler, et.al., 2002). Some of the forest management issues that can lead to negative public perceptions include clear-cutting, the use of herbicides (Wagner, Flynn, Gregory, Mertz & Slovik, 1998) and the visual effects of landscape alteration (Kearney, 2001). Visual effects on the landscape caused by forestry seem to be a particularly important issue in determining public acceptance of management practices. It was the visual effects of clear-cutting that was the primary cause of the Bitterroot and Monogahela National Forest controversies in the United States during the early 1970's (McCool, Benson & Ashor, 1986) and the Clayoquot Sound conflict in the 1990's (Wilson, 1998). These scenes of clear-cuts are often used by environmental advocacy groups to help demonstrate forest destruction and gain support for stricter management regulations (Kearney, 2001). There are a number of factors that appear to

influence perception of land management practices. These include environmental values, recreation preferences, landscape perceptions and forest management practices.

#### 2.5.1 Environmental Values

In economics the term value is generally used to express monetary worth. However, in a social science context the term values is often used to describe cultural ideas about what is considered to be desirable, right and appropriate (Tindall, 2003). An important factor in determining the degree to which forest management practices are considered to be acceptable is an individual's environmental values. These consist of personal beliefs relating to the basic condition of nature and the role human beings have in manipulating the environment. Environmental values may be influenced by factors such as moral, ethical or cultural norms (Wagner et al., 1998). These values are important determinants of how members of the public judge the appropriateness of resource management decisions and should be considered by natural resource managers. Research conducted by Ford et al. (2005) revealed that people with stronger non-use (intrinsic) values for the environment tend to value the aesthetics or forests and view clear-cutting as unacceptable. This helps to demonstrate the ways in which environmental values can influence acceptability of land management practices.

Researchers have classified environmental values into two broad perspectives. On one end of the spectrum is the biocentric perspective, which considers the natural world to have inherent value. This perspective extends ethical considerations to non-human entities and life-forms. On the opposite end of the spectrum is the anthropocentric perspective, which characterizes the value of nature in terms of its ability to provide benefits to society. This perspective considers human needs and desires to be most important and prioritizes these needs and desires above environmental concerns (Bengston, Webb, & Fan, 2004). Research has shown that these orientations often correspond with different social characteristics. For example, biocentric orientations have been found to correspond with younger people, who come from larger communities and have higher income and educational levels. It has also been found that women more commonly hold a biocentric perspective than men (Abrams, Kelly, Shindler & Wilton, 2005). Therefore, demographic characteristics, such as age, gender and ethnicity can potentially have a significant influence on public perception of land management practices (Gobster, 1996).
It has also been demonstrated that the degree of opposition a person feels towards industrial activities can depend on their personal values and affiliation with industry or environmental groups. Past studies have demonstrated that individuals with an 'economic' perspective support industrial activities more than those who believe the natural world has 'intrinsic' value (Abrams et al., 2005). Whether or not a person has an economic perspective depends partly on their degree of affiliation with industry or environmental groups. An investigation conducted by Ford et al. (2005) revealed significant differences between people affiliated with environmental groups, people affiliated with industrial groups and those with no affiliation at all. The study showed that conservation and non-affiliated individuals viewed clear-cutting as the least acceptable harvesting technique, whereas the industry affiliated participants found it to be more acceptable. The trend was reversed when participants were asked about their opinion of selective logging, with industry affiliated individuals viewing the harvesting technique to be unacceptable and conservation and non-affiliated people perceiving it to be most acceptable.

A technique that is commonly used to measure the environmental orientation of individuals is the New Ecological Paradigm (NEP) Scale. The NEP Scale has been used widely over the past three decades to examine the environmental beliefs of individuals exhibiting a wide range of demographic characteristics (Dunlap, Van Liere, Mertig & Jones, 2000). The revised version of the NEP contains 15 items that are separated into five factors which measure beliefs about relationships between human society and the environment. Participants are asked to indicate their level of agreement with the 15 items, which contain statements relating to balance of nature, likelihood of eco-crisis, exemptionalism (belief that humans are exempt from laws of nature), limits to growth and anthropocentrism (Cardano, Welcomer & Scherer, 2003). The 15 items are worded so as to produce eight pro-environment and seven anthropocentric items to ensure that no single facet is measured with items worded in only one direction. A high score on the NEP generally indicates that the participant has pro-environmental beliefs and attitudes on a wide range of issues. Past research has shown that certain demographic characteristics can play a role in people's environmental attitudes. For example, pro-environmental attitudes, indicated by a high NEP score, are consistently found in young, well-educated and politically liberal adults, whereas anthropocentric views tend to be found in their counterparts (Dunlap, 2008).

Links between environmental values and outdoor recreation participation have been suggested for decades (Dunlap & Hefferman, 1975; Dunlap & Catton, 1979; Carls, 1980; Wall, 1982). These links appear to be supported by the cognitive hierarchy model (Figure 3). According to this model, a person's values influence their attitudes and norms, which ultimately affects their behaviours (Whittaker, Vaske & Manfredo, 2006). If this is true, environmental values should influence recreation preferences and behaviours. However, results of studies probing this link have produced mixed results. For example, past research has revealed that pro-environment values are more common in individuals who preferred self-propelled forms of recreation (e.g. hiking) as opposed to motorized forms (Knopp & Tyger, 1973; Jackson, 1989). In addition to this, research conducted by Bjerk, Thrane & Kleiven (2006) found that NEP scores significantly contributed to the prediction of interest in ten out of 15 outdoor activities measured in their survey. Although it is not definitive, these studies seem to indicate that environmental values play at least some role in the determining recreation preferences and behaviour.



Figure 3. Cognitive hierarchy model describing process from values to behaviours. (Pierce, Manfredo & Vaske, 2001, p.46)

Despite research that seems to support the link between environmental values and preferred recreation activities, other studies appear to contradict this assertion. For example, Dunlap & Hefferman (1975) explored the issue of whether involvement in outdoor recreation was associated with environmental concern amongst the general public; results from this research producing only weak support for this theory. Van Leire & Noe (1981) also attempted to confirm that involvement in outdoor activities is positively associated with pro-environmental beliefs. This was done by surveying visitors to a national seashore in North Carolina and residents of the surrounding area. Like Dunlap & Hefferman (1975), results provided only weak support for their hypothesis. The mixed results found in the current body of research seem to suggest that a complex relationship between many variables is ultimately responsible for the links between environmental values and preferred recreation activities. This demonstrates the importance of considering tourist market segments individually when making land-use decisions, as they are likely to differ depending on the specific characteristics of their preferred outdoor recreation activity.

## **2.5.2 Recreation Setting Preferences**

According to Floyd & Gramman (1997), relationships exist between the quality of recreation experiences and the settings in which they occur. Past research has demonstrated that setting preferences often differ between tourist market segments. For example, consumptive recreationists (e.g. hunters, sport fishermen) are much more likely to tolerate harvested areas than other recreationists (Paquet & Belanger, 1997). Additionally, motorized recreationists tend to exhibit a greater acceptability for logged settings than non-motorized recreationists, which has been documented in comparisons between snowmobilers and cross-country skiers, as well as snowmobilers and wilderness recreationists (Hunt, et al., 2000). This demonstrates the importance of considering a variety of user groups, when making forest management decisions that could impact upon outdoor recreationists, as setting preferences are likely to vary according to the activity.

It appears that differences relating to setting preferences can also exist within tourist market segments. Past studies have demonstrated that hunters seek experiences associated with harvesting game, along with other experiences such as nature appreciation (Decker, Brown & Gutierrez, 1980; Hazel, Langenau & Levine, 1990). Research conducted by Floyd & Gramman

(1997) looked at whether hunters displayed any variability in terms of recreation setting preferences. From the data collected four distinct hunter segments emerged which were labelled as: non-harvesters, high-challenge harvesters, low-challenge harvesters and outdoor enthusiasts. Each of these four groups displayed differences in desired outcomes and ultimately preferences for different settings. For example, non-harvesters were most interested in enjoying nature and experiencing a change in routine, whereas high-challenge harvesters considered harvesting animals and developing hunting skills to be most important. Each segment was shown to prefer different setting attributes depending on their desired outcomes. Based upon this research, it seems that a range of desired outcomes can exist within certain tourism and recreation market segments. It is possible that understanding these differences could permit land managers to provide settings that are more likely to meet the needs of recreationists who desire a range of different experiences.

Recreation setting preferences have also been linked to certain demographic characteristics, which appears to correspond with some of the concepts relating to environmental values. When environmental values are assessed, younger people tend to exhibit a biocentric perspective. According to Hunt et al. (2000) younger individuals also have less desire to engage in outdoor recreation within harvested areas than older people. Additionally, higher education levels have been linked to the biocentric perspective. Biocentric individuals have also expressed a lack desire for recreation in logged settings (Hunt et al., 2000). Based on this it appears that individuals who hold a biocentric perspective may be less willing to recreate in logged settings than those with anthropocentric views. This could also suggest that younger, more educated people who hold a biocentric perspective may be more sensitive to forestry impacts around recreation areas. If this is indeed true, it seems logical that acceptability of forestry impacts near outdoor recreation areas will decrease with time because society as a whole is becoming more environmentally aware (Inglehart, 2008) and educated (Altbach, Reisberg & Rumbley, 2009).

### 2.5.3 Landscape Perception

Past research has demonstrated that there are a number of elements associated with visual settings that appear to influence perception of landscapes (Brown & Daniel, 1986; Bell, 1999; Sheppard, 2004). Factors such as weather, viewing distance and observer position can all shape an individual's perception of landscapes. Characteristics of the land itself can also affect

these perceptions. For example, angle of slope, vegetation patterns and soil colour have all been shown to influence how landscapes are perceived by the public (Sheppard, 2004). This seems to suggest that perception of forestry practices can be at least partly managed by understanding the impacts that are most likely to lead to negative perceptions. Once this occurs, steps can be taken to minimize the visibility and contrast of these impacts, which could ultimately improve tourism experiences.

The findings from past studies suggest that natural appearing landscapes are considered to be more scenic than those that have been altered by humans. However, the difference between natural scenes and altered landscapes is not always clear to those perceiving them. The presence of vegetation cover has been shown to be an important feature for influencing the way that individuals perceive landscapes (Fyhri, Jacobsen & Tommervik, 2009). Research conducted by Ode, Fry, Tveit, Messager & Miller (2009) revealed that certain vegetation cover characteristics (e.g. degree of fragmentation, shape of edges, level of succession) can influence the ways in which people perceive landscapes. By understanding the characteristics that are viewed most favourably it becomes possible to influence vegetation cover in a way that minimizes negative perceptions. At the landscape level vegetation cover patterns form a mosaic of visual elements that appear to change at various spatial and temporal scales. Aspects that include weather, season, time of day and viewer position can all influence the way in which elements of landscapes are perceived. The effect of spatial and temporal changes on an individual's perception of a landscape has the potential to be either positive or negative (Bell, 2001). Understanding the ways that individuals react to different types of alteration at various temporal and spatial scales can increase the likelihood that land managers will make decisions that are viewed as favourable by both locals and tourists.

The extent to which visual settings influence landscape perception have been shown to vary between tourists and residents. In research conducted by the British Columbia Ministry of Forests (2003), visitors to a wilderness tourism resort were surveyed to learn about their acceptance threshold for visual disturbances in the landscape. Visitors to this resort were shown to have a much lower acceptance threshold for landscape alteration than has been exhibited by British Columbia residents in other perception studies. This may be partly attributed to the nature of outdoor recreation activities that visitors were involved in, which relied heavily on intact

natural surroundings. However, when the British Columbia Ministry of Forests and Range (2006) examined the differences between tourists and residents using the same photographic scenes, tourists were also less accepting of forest alteration than residents. This demonstrates how tourists and local residents may perceive the same landscapes in different ways. By understanding these differences landscape managers will be better equipped to make decisions that are less likely to impact upon the image of tourism regions that promote the natural environment.

It has also been suggested that differences exist in the ways that recreation user groups perceive landscapes. A study conducted by Brunson & Shelby (1992) had 95 respondents visit an old-growth Douglas-fir stand and five nearby stands that had been harvested in the past two years using various harvesting techniques. Participants were then asked to judge each stand's acceptability as a scenic landscape, as a place to hike and as a place to camp. Results showed that sites were rated higher for scenic and hiking quality than camping quality. This suggests that forest quality judgements may vary according to the type of activity that an individual participates in. For many outdoor recreation activities, a scenic backdrop is considered to be an important element influencing quality of experience. However, many other elements are also conducive to the enjoyment of these activities. For example, flat ground is an important element for the enjoyment of camping, despite the fact that the presence of varying topography is often associated with improved scenic quality (Kent, 1993). Therefore, areas with flat ground may be more attractive to campers, even if they are considered to be less scenic.

### 2.5.4 Forest Management

Evidence from a number of studies seem to support the notion that the general public's preferred forest management option lies in the middle between preservation and utilization (Brunson, Shindler & Steel, 1997; Shindler, List & Steel, 1993; Shindler, Steel & List, 1996). Most people recognize that landscapes must be modified to produce goods, but feel that care should be taken to minimize the impacts of such developments. This especially seems to be true when it comes to perceptions regarding visual impacts (McCool et al., 1986). In a review of public perception studies, Picard & Sheppard (2001) suggest that people are more accepting of natural appearing conditions and much less accepting of highly modified landscapes. It has also been shown that the public finds more beauty in landscapes that exhibit intact patterns of

forest cover as opposed to the obvious forest opening found when clear-cutting is employed as a harvesting method (Ribe, 2004). Findings from these studies seem to indicate that the public is accepting of forestry as long as the associated visual impacts are minimized.

Past studies have also investigated the impact that forest management practices can have on tourism. The British Columbia Ministry of Forests and Range (2006) conducted research that looked at public responses to harvest practices within the province. In this study 714 British Columbia residents and 181 tourists were surveyed. Findings revealed that tourists were less accepting of forest harvesting than residents. Another study conducted by Hunt, Haider & Johnson (2000) surveyed resource-based tourism operators in Ontario to learn about the perceived impacts that forest management activities have on their businesses. Results from this research revealed that tourism operators believed that forest harvesting operations have a high likelihood of negatively impacting their tourism operations. This type of research highlights the importance of forest management decision making that is responsive to the needs of the tourism industry. If this does not occur it could potentially cause damage to the brand of tourism businesses that rely on the natural environment to attract visitors and generate revenue.

There are policy measures that can be taken to reduce the aesthetic impacts that forestry can have upon tourism values for places that rely upon the natural environment. In many cases visual buffers that consist of standing timber adjacent to natural attractions may be an effective way to minimize the visual impacts associated with forestry operations. In many instances the presence of buffers alone is not enough to obscure the presence of forestry activities. When this occurs harvest patterns can be designed in ways that resemble natural stand boundaries, as this has been shown to improve the aesthetics and reduce the visual impact of forestry in areas that rely on the aesthetic values of natural landscapes. This allows for harvesting to occur while maintaining the forested appearance of areas frequented by tourists. By employing these types of principles to forest management in regions that rely on the natural environment to attract tourists, forestry would be less likely to impact upon tourism values, which could ultimately reduce conflict between these two industries (Ontario Ministry of Natural Resources, 2001).

Attempts have been made in some jurisdictions to reduce conflicts that can occur between the forestry and the resource-based tourism industry. For example, the Ontario Ministry of Natural Resources (2001) developed a set of forest management guidelines to assist with the planning of forestry operations in areas of the province's forests which are used for both forestry and tourism. These guidelines summarise management options to be considered when developing prescriptions in forest management plans which could affect resource-based tourism interests. Under the *Crown Forest Sustainability Act* (CFSA) 1994, individuals who are responsible for preparing forest management plans are required to consult with these guidelines. Despite the presence of these plans, many critics within the tourism industry view them to be ineffective, due to a lack of proper implementation (Hunt, et al., 2000b).

### 2.5.5 Theory Synthesis

Synthesis of the theories discussed can be used to help address the first research question by providing insight into the influence that forestry can have on tourism image in regions that market the natural environment. They may also be used to address the second research question by explaining differences that may be found between tourist market segments.

Despite the apparent relevance of tourist gaze, these ideas are similar to those presented within destination image theory. Urry (2002) states that the objects tourists expect to gaze upon are those that are commonly depicted in post cards and other forms of promotional media. The idea that marketing images motivate individuals to visit specific destinations and form expectations has also been documented in the destination image literature (Mercille, 2005; Tasci & Kozak, 2006; Sirgy & Su, 2000; Buzinde, Santos & Smith, 2006; Beerli & Martin, 2004b). Additionally, Urry (2002) argues that objects of the gaze that do not meet expectations will likely have a negative impact upon the tourist experience. This is similar to the idea that presented by Jenkins (1999), which states that the most negative evaluation of a destination is likely to occur when a positive pre-trip destination image is followed by a visitor experience that does not match the image portrayed in promotional media (see Figure 2).

Various aspects of the tourist performance theory can also be explained through the use of destination image literature. Like tourist performance, destination image theories go beyond

visual aspects to include more active dimensions of a destination, such as the recreation opportunities available (Obenour, Groves & Lengfelder, 1991). Because tourists evaluate destinations based on the types of leisure they would like to engage in, the types of recreation opportunities promoted have the potential to significantly impact destination image (Ahmed, 1996). However, the tourist gaze and performance theories only account for the visual images and activities associated with a particular destination. The strength of destination image theory is that it considers other elements that contribute to the overall tourist experience. These may include, but are not limited to, tourist facilities, infrastructure, nature and culture.

Despite the extensive theory development associated with tourist gaze, no reliable methods were able to be identified in the literature that could be used to help operationalize this theory. However, destination image has been the subject of considerable research within the tourism industry over the past four decades (Gallarza, Saura & Garcia, 2002). Due to the wide breadth of coverage given to the elements that shape tourist experience and the prevalence of survey methods used to measure destination image, it seems that this theory is most suitable for analyzing the effects that visitor experience has on tourism image. Therefore, destination image theory will be used to guide theoretical development and data collection methods.

Ultimately the goal of this investigation is to learn about the effect that forest management practices have on the perceptions of tourists who visit regions that market the natural environment. Therefore, it is important to understand the factors that help to shape destination image. As mentioned previously, the two primary elements that relate to destination image are pre-visit and post-visit destination image. The image that a particular destination portrays to potential visitors can affect an individual's subjective perception, consequent behaviour and ultimately destination choice (Gallarza et al., 2001). However, an individual's pre-visit destination image is often different from their post-visit destination image. This is because pre-visit destination image is based upon secondary sources, whereas post-visit destination image is based upon secondary sources, whereas post-visit destination image is based upon secondary sources followed by a negative experience, tourism managers must ensure that the images promoted accurately reflect scenes that tourists are likely to encounter throughout their trip. If this does not occur it can result in negative publicity, which could have a detrimental impact on the tourism destination as a whole.

Theories related to pre-visit destination image can help to explain some of the factors that motivate tourists to visit specific places. For example, personal characteristics, such as age, gender and occupation can all play important roles in shaping the pre-visit image that tourists have of specific destinations (Beerli & Martin, 2004a). Other factors that can help shape an individual's pre-visit destination image include tourism marketing images, prior knowledge (Beerli & Martin, 2004b), and distance between home residence and destination (Gallarza et al., 2001). By understanding these factors, tourism practitioners can gain insight into how a destination is perceived by their target markets.

To learn about the effect that forestry can have on the tourism image for destinations that market the natural environment, it is also important to understand the elements that determine visitor satisfaction. This is because post-visit destination image is determined by the degree to which visitor experience matches pre-visit expectations. If an individual's visitor experience matches their expectations they are likely to be satisfied. Public perception literature has demonstrated that the sustainability of land management practices is important for determining public acceptance of forestry (Wagner et al., 1998; Kearney, 2001). Research has also shown that tourists tend to be less accepting of altered landscapes than local residents (British Columbia Ministry of Forests and Range, 2006). Therefore, it seems logical that forest management practices could affect destination image for regions that promote the natural environment, due to the expectations that are formed by tourism marketing material.

Because an individual's environmental values play such an important role in determining whether or not forestry practices are considered to be acceptable (Wagner et al., 1998), it seems likely that this could also impact on post-visit destination image for places that market the natural environment to potential visitors. Past research has shown that environmental values are partly determined by certain personal characteristics (Bengston, Webb & Fan, 2004). Therefore, understanding of the demographic characteristics that influence environmental values, could give an indication as to how certain individuals are likely to view forest practices in destinations that promote the natural environment.

Links between environmental values and preferred recreation activities have also been suggested in past research (Dunlap & Hefferman, 1975; Carls, 1980; Wall, 1982). However, the mixed results found within the body of research appear to suggest that these links are highly dependent upon a variety of factors that are activity specific. While some outdoor activities appear to correspond with specific values, others do not. This suggests that the use of broad classifications (e.g. eco-tourists) to help define tourist segments is less desirable than considering user groups individually (e.g. back country hikers). Therefore, a specific management solution that may be suitable for one segment may not be ideal for others (Vaske, Kiriakos, Cottrell & Khuong, 2009). If forest managers are able to better understand the desires of various user groups it will help them to provide experiences that meet expectations. This is because recreation setting attributes have been shown to have an influence on quality of experience (Floyd & Gramman, 1997; Manfredo, Driver & Brown, 1983; Decker, et al., 1980).

Relationships also exist between recreation setting preference and quality of experience (Floyd & Gramman, 1997). Past studies have shown that setting preferences regularly differ when comparing tourist market segments (Paquet & Belanger, 1997; Hunt et al., 2000). This suggests that certain tourist market segments would be impacted differently than others when exposed to forest industry impacts. However, it is important to note that differences also exist within tourist market segments. These differences tend to be dependent upon the desired outcomes of the recreationist (Floyd & Gramman, 1997). For example, the primary outcome for some recreational fishermen is to catch fish, whereas others are more concerned with relaxation and nature-enjoyment. By understanding differences in recreation setting preferences natural resource managers will be able to better predict the reaction that certain visitors will have when exposed to various forest management options.

According to landscape perception theory, visual impacts have the potential to influence the ways that individuals perceive various settings (Brown & Daniel, 1986; Bell, 1999; Sheppard, 2004). Because setting attributes can influence quality of experience it seems likely that these principles could be used to help understand how forestry practices could impact upon tourist experience and ultimately destination image. Since certain forest management practices produce more noticeable impacts to the landscape than others, it seems that they would also be likely to affect tourist experience most. This is especially true for user groups who are most

susceptible to having their experience influenced by recreation setting attributes. Therefore, the use of landscape perception theory could potentially help to explain which forest treatments are most likely to be perceived negatively by tourists.

An illustration of how the theoretical framework relates to the research objective of identifying the type of impact that forestry can have on destination image in places that market the natural environment is presented in Figure 4. Arrows with solid lines indicate links documented in the literature presented, while arrows with dotted lines indicate links that will be probed in this research. The framework suggests that forest management practices, setting preferences and landscape perceptions all play a role in shaping visitor experience and ultimately post-visit destination image. Some of the factors that help shape visitor experience (i.e. setting preferences) cannot be influenced by tourism or forestry managers. However, forest management practices could influence certain elements of the visitor experience. By understanding the ways in which forest management practices can affect the tourism experience it would likely provide benefits to the tourism industry.



Figure 4. Primary research objective and rationale for theoretical background development. (Solid arrows - links documented in literature; Dotted arrows - links probed by this research)

## 2.6 Sense of Place

Sense of place has been used increasingly to describe the emotional connections that people form with the environments that they encounter throughout their lives (Cheng et.al. 2003). A place can be described as a bounded space that has been given symbolic meaning by individuals. Sense of place is not intrinsic to the physical setting itself, but developed through human interpretations of a setting, which are formed through past experiences (Stedman, 2003). The meaning given to a space could be based upon a variety of characteristics such as heritage features, recreation opportunities, scenic views or rare habitats. It may not be all of these things to all people, but often contains some of these values for some individuals (Williams, 1995). The main difference between a 'space' and a 'place' is that a 'place' has been endowed with human values, whereas a 'space' has not (Stedman, 2003). Past research has demonstrated that there are many different factors that can play roles in shaping an individual's sense of place. Factors that influence place meaning can be classified into three separate categories. Social and cultural meanings inform ideas, beliefs and values that shape an individual's view of the world. These meanings can play an important role in constructing the attachments that people form with places (Cheng et al., 2003). Social and political processes are also important aspects in shaping place meaning. These may include factors relating to political ideologies and economic/social class. (Young, 1999). Along with these factors, the biophysical characteristics and processes of a specific place can also have an important influence on the emotional connections that people form with it. For example, the presence of unique features (Shindler et al., 2002) or proximity of a place to an individual's residence are both important factors in determining the degree of place attachment one feels towards a specific location (Eisenhauer, Krannich & Blahna, 2000).

Although distinct from one another, each of the three factors that play a role in the determination of place meaning, overlap in most locales. For example, a national park includes elements of the social and cultural meaning realm (e.g., evaluations of aesthetic qualities), the social and political process realm (e.g., management actions) and biophysical characteristics and process realm (e.g., flora/fauna, hydrological/geological processes). It is the interaction between these elements that determine a locations 'place meaning' (Young, 1999). However, one must consider that the three factors mentioned can differ between individuals, as well as groups of individuals. This generally results in the emergence of a variety of place meanings associated with an individual location, which can contribute to the land management conflicts that have become so prevalent in today's society (Cheng et al., 2003).

Because sense of place describes the emotional connections that people form with the environments they encounter it seems as though local residents would be more likely than visitors to form deep emotional connections to landscapes. However, modern globalized lifestyles have lead to a highly mobile population, with individuals who spend significant amounts of time in many different regions. This results in place bonds and social connections that extend over large geographic areas. Because many tourists have spent time in a variety of destinations, this group seems more likely to develop emotional connections with places that are farther away from their homes (Budruk, Wilhelm-Stanis, Schneider & Anderson, 2001).

Therefore, resource managers should try to consider the emotional connections that visitors form with certain landscapes, as this could help to maximize repeat visitation and word of mouth promotion, resulting in economic benefits to local communities.

When considering sense of place it is also important to acknowledge the differences in meaning given to places by tourists, as opposed to residents. Past research suggests that both tourists and local residents can experience a high degree of place attachment (Hall, Farnum, Slider & Ludlow, 2009; Kianicka, Buchecker, Hunziker & Muller-Boker, 2006). However, these two groups seem to experience place in different ways. Sense of place for local residents tends to be primarily shaped by aspects of everyday life, such as occupation, property ownership and especially social relationships. Memories of childhood and youth are important factors that help shape sense of place for this group. For tourists sense of place is shaped by the aesthetics and characteristics of the place, which are often experienced in the context of leisure activities. Therefore, the activities through which these places are experienced have a significant impact on the way that tourists construct their sense of place (Kianicka et al., 2006).

There is also variation in the ways that different types of tourists experience place. This may be based on a variety of factors. For example, the number of different places visited and amount of time spent in a given place appears to affect level of attachment. Tourists who have spent significant time at a specific destination over many trips are likely to have stronger place attachment than those visiting for the first time (Bricker & Kerstetter, 2000). Furthermore, frequency and type of use seems to have an influence on the meaning that recreationists and tourists give to specific places. For example, tourists who participate in highly specialized recreation activities, such as hunting, tend to show significant attachment to the places where they engage in these activities (Williams, Patterson, Roggenbuck & Watson, 1992). The type of experiential outcome that the tourist hopes to achieve also plays a role in the way that place attachment is formed. An eco-tourist with an interest in tropical ecology is likely to experience a place like Costa Rica differently than a backpacker who is motivated by a desire to relax on the beach (Young, 1999). Because of the many factors that can influence place meaning for tourists, one must consider the types of experiences they desire when making decisions that impact on a destination's sense of place.

The sense of place theory could be useful for land management agencies, as place can affect how people determine the appropriateness of management objectives (Bricker & Kerstetter, 2000). Therefore, consideration of this concept can provide managers with an indication about how certain management actions may be perceived by the public (Shindler et al., 2002). This is because the interpretation of place provides an indication of the various attachments that individuals, local communities and other stakeholders have towards different environments (Knudson, Cable & Beck, 2003). Therefore, one could expect that a better understanding of place would allow management agencies to adopt strategies that could increase public acceptance of land management policies and actions. The following sections will discuss some of the challenges of integrating this concept into land management then propose ways in which better integration may be achieved.

### 2.6.1 Sense of Place Application Challenges

Despite the apparent significance of sense of place, it seems that it often gets overlooked by decision-makers. There are a few explanations of why this may be the case. Sense of place is based upon the emotional connections that people form with environments that they encounter. Traditionally emotions have been studied from either a biological, cultural or social perspective. However, these perspectives tend to fall on either side of the division between nature and culture. Therefore, these approaches have failed to recognize that emotions bridge this division, as they can be considered to be both biological and cultural (Milton, 2005). Because emotion and meanings can be analysed from many different perspectives, it likely makes them more difficult to apply to land management decision making.

Another reason that sense of place may not get much consideration by land managers is the difficulty in applying the concept in practice. As mentioned above, a single place can hold many different meanings, because individuals prescribe different meanings to the same place. Therefore, making decisions based on this concept can prove to be quite difficult. Because of this, decision making is often based on more traditional measures, such as 'yield' or 'use', which tends to be easier to measure than individual place meanings. However, many societies value natural resources in ways that are not as easily measured by these more traditional measures (Williams, 1995) (e.g. spiritual, cultural or emotional connections). Therefore, application of the

sense of place concept by land managers has the potential to result in policies which are more reactive to specific concerns that may be raised by the public.

Some land managers may be reluctant to integrate the sense of place concept into decision making due to some of the limitations identified. A major problem with sense of place is that the concept can be equated with whether or not a locale is special. However, many places are considered to be special by individuals and the meanings given to specific places by people often contradict each other. These differing perceptions can make application of the place concept quite difficult. Additionally, places that carry special meanings may not be particularly important for ecological functions (Shindler et al., 2002). This can result in cases where land managers must make decisions based on whether to preserve those locales that perform valuable ecological functions or those that hold special place meaning to local residents.

Although not commonly practiced, aspects of the sense of place theory have been applied to resource management situations in the past. For example the United States Department of Agriculture, Forest Service (USFS) employs a Visual Quality Management System (VQMS) to identify visual-quality management objectives for specific geographic locations (Williams & Patterson, 1999). However, this technique only considers the visual aspect of place and neglects things such as cultural heritage, recreation opportunities and rare habitats. A set of procedures and standards known as the *Recreation Features Inventory* was developed by the British Columbia Ministry of Forests (1998a) to help managers go beyond visual resources and consider the recreation values of natural features within a local context. This document provides guidelines to assist with the identification of significant recreation values. Although the place concept is not explicitly mentioned within this document, it does consider ideas found within the sense of place literature, including the recreation values and uniqueness of an area. However, it still fails to specifically address the sense of place concept.

In an attempt to better incorporate the place concept into land use planning a project was undertaken by the USFS with the aim of considering place meaning and attachment, along with biophysical data, to help guide policy development in Washington and Oregon. This is done by inviting participants to workshops, where they are asked to identify places throughout the region that have different value sets associated with them. The information gathered through this process was used to construct maps detailing place meanings and values as described by the participants. This can then be used by resource managers to help improve land management (Hall et al., 2009). Other planning and management frameworks that recognize the relationships between people and place include the Recreation Opportunity Spectrum (ROS) and Limits of Acceptable Change (LAC) framework (Budruk et al., 2001). It is likely that increased use of these types of frameworks would allow managers to better integrate emotional connections into resource management decision making.

## 2.6.2 Place Based Governance

Despite the difficulties associated with integrating sense of place into land management decision making, there are some additional ways in which such integration can be achieved. A place-based approach to governance has been identified as a possible way to help overcome some of the obstacles associated with integrating place into resource management decisions. This approach seeks to engage the public in the decision making processes by utilizing local and regional place-based identities which can help to promote a local sense of place without the constraint of political boundaries (Edge & McAllister, 2009). This is similar to the idea of transactive planning, which allows stakeholders to bring their experiences and personal knowledge of local conditions to the planning process (Wray, 2011). Place-based governance puts emphasis on the collaborative process by eliciting the opinions of local residents. This is much different from the 'one size fits all' planning models which have dominated natural resource management in the past. These approaches recognize the bonds people form with certain places and the importance of incorporating these meanings into land management decisions (McIntyre, Moore & Yuan, 2008).

Place-based governance requires decision-makers to understand the diverse individuals, communities and interests that reside within a particular place (Edge & McAllister, 2009). In order to facilitate this understanding it is important to elicit the opinions of stakeholders, which can be useful in identifying where certain ecosystem management practices may be considered unacceptable or inappropriate (Shindler et al., 2002). This approach is also likely to leave decisions less open to public criticism, as local residents would know that their concerns were at

least considered. The mapping of place meanings overtop of landscapes, tenures and areas considered to be of high natural resource value may also be useful to help provide a visual representation of where land management conflicts may arise (Hall et al., 2009).

Better integration of place meaning into land management decisions is likely to result in certain benefits. Place specific interactions tend to generate their own set of shared meanings that are often different from the typical landscape-level planning approaches commonly used today. Systematic incorporation of place meanings by resource management professionals could provide a way to identify the attachment's that people form with different places and plan accordingly (Shindler et al., 2002). It is possible that this could reduce public opposition that is commonly associated with resource management decisions.

### 2.6.3 Sense of Place Application for Tourism Regions

The sense of place theories that have been discussed may be used to help address the third research question by providing insight into ways that forests can be managed to ensure that recreation and tourism values are not compromised by other forest interests. The reduction of visual impacts has been shown to help improve public acceptance of forest management practices (Picard & Sheppard, 2001). A primary reason that individuals visit destinations that market the natural environment is to enjoy the scenery associated with these places. Therefore, it could be expected that a reduction in visual impacts could help improve post-visit destination image for destinations that market the natural environment.

According to Bricker and Kerstetter (2000), sense of place can play a role in determining how the public views the appropriateness of land management practices. This is because the sense of place concept provides insight into the attachments that individuals form with the environments they encounter (Knudson, et al., 2003). However, it is important to remember that tourists and local residents tend to attribute different meanings to the same places and therefore have differing desires with regard for natural resource management. Tourist's sense of place tends to be shaped by a destination's aesthetics and characteristics, which are usually experienced in the context of leisure, whereas sense of place for local residents is mostly shaped by aspects of everyday life (Kianicka et al., 2006). By understanding who considers

certain places to be special and why, it would improve the ability of forest management agencies to plan their activities in a way that considers the attachments people form with certain areas. One might expect that this could help to reduce the impact that forestry has on tourism values in places that market the natural environment.

Although integrating the sense of place concept into natural resource management can be difficult, a place-based approach to management and governance is a possible solution for overcoming these difficulties. By utilizing local and regional place-based identities, decisions are more likely to reflect the meanings that the public ascribes to these places. As mentioned previously, place meanings are partly influenced by an individual's values (Cheng et al., 2003). Environmental values are determined in part by an individual's affiliation with industry (Abrams et al., 2005; Brown & Harris, 1992). Therefore, one might expect that a significant proportion of residents in regions that promote the natural environment would exhibit a high degree of place attachment to landscapes that appear intact and natural. By integrating place meaning into resource management decisions in regions where nature-based tourism and outdoor recreation activities are considered to be important by locals it may help to preserve the tourism values that are most important to a region. This could ultimately improve destination image. An illustration of how integrating the place meanings of local residents into decision making could help preserve tourism values is presented in Figure 5.



Figure 5. Integration of local resident place-meanings into management solutions that reflect tourism values.

# 2.7 Vancouver Island and Tasmania Resource Conflict in the Media

Destination image is an expression of an individual's knowledge, impressions, prejudice and emotions in relation to a particular place (Jenkins, 1999). To help attract visitors tourism

managers attempt to portray destinations in a way that matches the desires of the targeted market (Sirgy & Su, 2000). However, tourism managers do not have complete control over the messages that may influence potential visitors. The way that a region is portrayed in the media may also affect destination image (Mercille, 2005). Therefore, regions that promote the natural environment to attract visitors and generate tourism revenue are likely vulnerable to the effects of high-profile environmental conflicts that get played out in the media. This is especially true for those conflicts that gain international coverage. Therefore, the following sections will discuss some of the high-profile environmental conflicts in both Vancouver Island and Tasmania that have received international attention. According to destination image theory, coverage of such events could potentially influence the perceptions of potential visitors, ultimately affecting the tourism industry.

## 2.7.1 Carmanah/Walbran Conflict (Vancouver Island)

The Carmanah and Walbran Valley's were at the epicentre of an important conflict relating to forestry and environmental values in Vancouver Island during the late 1980's and early 1990's. In the spring of 1988 two members of the Western Canada Wilderness Committee (WCWC) discovered that MacMillan Bloedel logging operations were moving toward stands of giant Sitka Spruce located in the Carmanah Valley (Wilson, 1998). Upon learning about MacMillan Bloedel's plans to move into the valley the Sierra Club of Western Canada (SCWC) and the Heritage Forests Society developed a public brief that was presented to the provincial government calling for protection of the entire Carmanah Valley with an immediate moratorium of the construction of logging roads. These actions combined with public pressure convinced MacMillan Bloedel to stop road construction in the area. It was during this time that they discovered the tallest known tree in Canada, which also turned out to be the world's largest recorded Sitka Spruce. This tree became known as the Carmanah Giant and stood approximately ninety-five meters in height (Tindall & Begoray, 1993).

This discovery convinced MacMillan Bloedel to release a proposal that would establish two reserves surrounding the largest Sitka Spruce protecting about ninety-nine hectares (Wilson, 1998) and covering approximately 1.4 percent of the valley. Environmental groups criticized these plans and called for the preservation of the entire valley to help reduce the negative effects associated with erosion and wind. In an attempt to draw attention to the area the WCWC

printed 8000 copies of a poster glorifying the area and began construction of a hiking trail into the valley. In response MacMillan Bloedel sought a British Columbia Supreme Court injunction to stop trail construction in the area. This was ultimately dismissed on the grounds that the public has the right to access Crown Lands that are under a Tree Farm License (Tindall & Begoray, 1993). Upon the trail's completion hundreds of people began hiking into the valley, which could easily be reached from Victoria by road (Wilson, 1998).

The WCWC campaign to protect the Carmanah Valley included the creation and distribution of a news publication dedicated to the issue, additional posters, a collection of artworks and a video that was narrated by David Suzuki. The video, along with the publications, posters and artworks reached a surprisingly wide audience, further publicizing the issue. According to WCWC estimates more than 2 million copies of their publication were distributed. In addition to this, the poster sold more than 20 000 copies and the art book sold 15 000 copies within a year. During this time the WCWC increased its sponsorship of scientific research into old growth ecosystems and constructed a platform in one of the area's trees to help facilitate scientific research. Protests were also held at the legislature by environmental groups, as well as forest workers and their supporters (Wilson, 1998). By this point the issue began receiving national attention with the federal Environment Minister Lucien Bouchard expressing the opinion that logging should be delayed pending further investigation and the delivery of a petition calling for full preservation to the House of Commons that was signed by more than 18 000 people (Tindall & Begoray, 1993).

In April 1990 the Provincial Minister of Forests announced that the lower half of the Carmanah Valley would become a 3600 hectare provincial park. However, logging would still be allowed to take place in the upper part of the valley. Not surprisingly the WCWC was happy with this result (Wilson, 1998). The decision also gained international attention when Jup Weber, a forest engineer and Luxembourg Green Party MP visited BC in 1990. He was said to be appalled by the Government's decision to allow harvesting to take place in the upper half of the valley (Stanbury, 2000). In response to government's decision the WCWC began increasing their sponsorship of research activities and expanding their trail network into the upper reaches of the valley. During this research the first known nest of the threatened marbled murrelet was

discovered further strengthening the case for preservation of the entire valley (Wilson, 1998) (Stanbury, 2000).

During this time an area known as the Walbran located immediately south of Carmanah was also gaining significant attention when members of the Carmanah Forest Society began building trails in this area. Fletcher Challenge who controlled most of the rights in this area attempted to gain public support through an extensive public information campaign, Despite these efforts, their attempt to construct roads in the valley during the summer of 1991 were met with a blockade and protests. Many of these protesters were members of the Environmental Youth Alliance who had travelled from across Canada to employ a number of direct action tactics such as fasting and tree perching (Wilson, 1998). The issue even received attention as far away as New Zealand where a protest vigil was held outside the offices of the parent company to Fletcher Challenge Canada (Stanbury, 2000).

In response to conflicts within the Carmanah and Walbran Valley's, as well as other areas, the Commission on Resources and the Environment (CORE) was formed. Its purpose was to give communities and other stakeholders a voice in regional land use planning and recommend lands for protection within some of the more contentious areas in the province. One of the organization's first activities was to initiate a land use planning process for all of Vancouver Island, which would become known as the Vancouver Island Land Use Plan. This plan recommended an expanded park in the Carmanah/Walbran area, which ultimately became the Carmanah Walbran Provincial Park and includes the entire Carmanah Valley and most of the Walbran Valley's lower portion (Hanna, et al., 2008).

## 2.7.2 Clayoquot Sound (Vancouver Island)

One of the most high profile environmental conflicts in Canadian history took place in Clayoquot Sound during the late 1980's and early 1990's. The earliest campaigns to restrict logging in the area took place during the 1970's. By the early 1980's residents of Tofino and the nearby Nuuchah-nulth First Nations started to voice their concerns about logging in the area. They were particularly concerned about plans to log Meares Island, which is located close to Tofino and the nearby First Nations settlement of Ahousat. This resulted in a land use planning process that included a recommendation calling for the exclusion of harvesting from the portion of Meares Island most visible to Tofino. After MacMillan Bloedel expressed their disagreement with this recommendation the provincial Cabinet also decided to reject the outcome. This ultimately led to resentment within local communities and would set the stage for a larger conflict that would gain media attention both nationally and internationally (Hanna et al., 2008).

Some of the first forestry blockades in British Columbia history occurred in 1984 and 1985 when MacMillan Bloedel attempted to begin logging on Meares Island. Eventually the Nuu-chah-nulth were able to obtain an injunction that resulted in a suspension of logging on the island (Hanna et al., 2008). By the late 1980's the local First Nations groups (Wilson, 1998), as well as environmental groups expanded the scope of their campaign to include the entire Clayoquot Sound area (Hanna, et al., 2008). This growing movement was a reflection of local residents who were attracted to the area's natural beauty and lifestyle during the 1960's and 1970's. Many of these people eventually became active players in the local tourist industry owning a variety of companies including whale-watching charters, kayak stores and other small businesses that became reliant upon the visitors attracted by the region's natural beauty (Wilson, 1998).

Tension began to rise when local residents discovered landslides caused by the construction of logging roads north of Tofino. Representatives from the Friends of Clayoquot Sound met with officials from BC Forest Products and the Ministry of Forests. However, it failed to significantly alter the company's plans. This resulted in the initiation of blockades by the Friends of Clayoquot Sound in June 1988, which ultimately led to arrests (Wilson, 1998). In response to increasing blockades and growing public interest in the area the government initiated a land use planning process for the Clayoquot Sound region. However, environmental groups viewed the process as being flawed and favouring the forest industry. In 1993 the provincial government attempted to implement findings from the land use planning process (Hanna, et al., 2008). It called for the permanent protection of one third of the land within Clayoquot Sound. However, 45% of the area would still be available for logging and other forms of resource extraction (Stanbury, 2000).

In response to this announcement the WCWC employed a similar tactic that was used in the Carmanah conflict and constructed a trail to bring additional visitors in the area (Stanbury, 2000). This was accompanied by large scale protests and blockades during the summer of 1993, which ultimately led to the arrest of approximately 850 people (Hanna, et al., 2008). Those taking part in the blockades came from a wide variety of backgrounds and included individuals such as NDP MP Svend Robinson and Paul Staes who was a Belgian Green Party representative in the European Parliament. Those arrested included a 72 year old Judith Robinson and two young boys aged 11 and 12 who had their parents take them to the protests (Stanbury, 2000). Eventually the action by environmental groups led to an extensive national and international media campaign that included calls for a boycott of products from forest companies that were operating in the area (Hanna, et al., 2008).

Through discussions with the Nuu-Chah-Nulth Tribal Council an interim agreement was developed that provided for a cooperative land-management plan between the government and native groups. The Scientific Panel for Sustainable Forest Practices in Clayoquot Sound was also created with the purpose of developing a sustainable forest management plan for the area. The advisory panel completed its final set of recommendations for forestry in Clayoquot Sound in April 1995 (Lavallee & Suedfeld, 1997). These included significant changes to forestry in the area, including the elimination of clear-cut logging practices (Hanna, et al., 2008). It also called for a departure from conventional methods used in the development and approval of logging plans. Difficulties with adopting recommendations given by the advisory panel has since put a stop to logging operations in the region for the most part (Lavallee & Suedfeld, 1997). Today the region has become one of the most iconic nature-based tourism destinations in all of British Columbia.

### 2.7.3 Franklin-Gordon Dam (Tasmania)

One of the more notable environmental conflicts in Australian history, the Franklin-Gordon Dam dispute, began in 1979 when the Hydro-Electric Commission of Tasmania (HEC) released its *Report on the Gordon River Power Development Stage 2* (Aiken & Leigh, 1986). Stage 1 of the development had just been completed, submerging Lake Pedder, despite the area's status as a National Park (Bandler, 1987). This evoked a public outcry from conservationists who objected to the flooding of this area, due to its scenic values, endemic species and unique quartzite sand

beach (Sharples, 2001). The Stage 2 report, which strongly favored another dam and power station on the Gordon River (i.e. the Gordon below Franklin scheme), was supported at the time by most of the state's ruling Labor Party, the opposition Liberal Party, trade unions and industry groups. However, strong opposition to the project came from a large group of conservationists who were lead by the TWS (Aiken & Leigh, 1986). This ultimately led to a high-profile conflict which captured the attention of media throughout Australia and abroad (Bandler, 1987, Chen & Hay, 2006).

In an attempt to satisfy groups opposing construction of the dam, the Labor Party reconsidered its position on the issue and proposed new location for the development known as the 'Gordon above Olga' scheme. This proposal, however, was opposed by both the HEC and TWS. In December of 1981 a referendum was held in an attempt to resolve the dam dispute, but voters were only provided with two options to choose from (the Gordon below Franklin scheme or the Gordon above Olga scheme). With encouragement from TWS to vote for neither option, 33% of voters wrote 'No Dams' on their ballots, with 47% voting in favor of the Gordon below Franklin scheme and 8% selecting the Gordon above Olga scheme. Despite this the Labor Party approved the Franklin above Gordon scheme, but was unable to survive a confidence vote. The subsequent election in 1982 brought the pro-dam Liberal Party to power and later that year the Franklin scheme was approved by the state government (Aitken & Leigh, 1986).

Approval by the state government caused the Franklin Dam to become a national issue. In July of 1982 the opposition Australian Labor Party changed their position on the issue and voted in favor of a 'no dams' policy. In October of the same year the Australian Democrat Party also adopted a similar policy regarding the development of dams in the southwest of Tasmania. It was during this time that the TWS began a nationwide campaign to save the Franklin which included media campaigns and blockades of the dam construction site that lead to more than 1300 arrests. Rallies were being organized on the mainland during this time, with the largest occurring in Melbourne when over 15 000 anti-dam protesters marched through the streets. This gained extensive coverage in the media who regularly reported on the constant clashes occurring between protesters and police (Bandler, 1987). Also in 1982 a large portion of Tasmania's South West wilderness was added to the World Heritage List. Despite these events,

the ruling Australian Liberal government refused to halt construction of the Franklin Dam (Aitken & Leigh, 1986).

With federal elections being held in March of 1983, the Franklin Dam became a significant political issue. Due to the Labor Party's opposition to the dam, the TWS led a campaign supporting Labor candidates in 13 key marginal seats throughout the country, all of which were won by the party. This ultimately led to a Labor Party victory in the election and an end to blockades of the dam construction site. On March 30, 1983 the new Hawke government announced regulations banning HEC activities from occurring within the World Heritage Area. Later that year the World Heritage Bill became law and on July 1 the High Court ruled in favor of the Commonwealth government, which effectively stopped the Franklin Dam development from going forward (Aitken & Leigh, 1986). These events demonstrated the important influence that grassroots environmentalists could have over land use and environmental policies at the national level, as the TWS and its supporters played a vital role in the election of the Australian Labor Party, because of their 'no dam' policy.

## 2.7.4 Harvesting of Old-Growth Forests (Tasmania)

Following the successful Franklin-Gordon River campaign, the environmental movement set its sights upon the protection of the State's old growth forests (Gee, 2005). One of the primary issues that caused the conservation movement to focus on forest protection was the renewal of Tasmania's woodchip licenses in 1983. After a letter writing campaign the federal government agreed to conduct an environmental impact assessment in relation to the licenses and place a temporary moratorium on logging in two iconic areas facing immediate threat (i.e. the Lemonthyme and Farmhouse Creek forests). The draft woodchip environmental impact assessment was released in 1985. Amongst the public many viewed the document as catering to forest industry interests, while having little regard for the environmental protection of forests. In response to this protesters held the first major street rally in Hobart since the Franklin-Gordon campaign. This event would mark the beginning of what would prove to be a long and hard fought battle to protect Tasmania's native forests. However, the Federal Government decided to renew the woodchip licenses despite the Hobart rally (Buckman, 2008).

After the renewal of the woodchip licenses the forest industry sent workers and equipment into the Lemonthyme and Farmhouse Creek forests in 1986. Both of these areas had temporary logging moratoriums placed upon them during the previous woodchip environmental assessment process, which had since been removed. When loggers moved into both areas they were met with blockades, similar to what had occurred previously during the Franklin-Gordon campaign. As more people became involved in the blockades, tensions rose between the conservation movement and loggers eventually leading to a physical confrontation between the two groups at Farmhouse Creek. Eventually police moved into both locations arresting approximately 70 people in the process, which effectively ended both blockades. Although logging continued this event stimulated major media coverage of the forest conflicts in Tasmania and placed the issue into the public consciousness, similar to what had occurred with the state's proposed hydroelectric developments in past decades (Buckman, 2008).

The remainder of the 1980's was characterized by successful campaigns against two proposed pulp mill developments at Wesley Vale on the north coast and at Whale Point in the southern part of the state. The conservation movement also celebrated the establishment of Douglas-Apsley National Park and significant additions to the World Heritage Area that was originally established as a result of the successful Franklin-Gordon campaign. These additions effectively doubled the size of the original World Heritage Area which significantly improved its environmental integrity. Despite these victories, other areas considered to be significant by the Tasmanian conservation movement were still left unprotected. It was these areas that would serve as battlegrounds for future campaigns for environmental protection in Tasmania (Buckman, 2008).

The 1992 state election of the Tasmanian Liberal Party marked the introduction of pro-forestry government and a return to a period of significant conflict within Tasmanian forests. With the approval of a new woodchip mill at Hampshire in 1993, the conservation movement decided to engage the federal government in a lobbying campaign to limit the granting of federal woodchip licenses. Despite these attempts, licenses were renewed in 1994 causing a strong reaction from many members of the public. In early 1995 more than 80 000 people attended forest rallies throughout Australia that included more than 5000 attendees in Hobart. The conflict over this version of the woodchip licenses continued in the streets and the courts leading to the creation

of Regional Forest Agreement process in 1997 (Buckman, 2008). These agreements are essentially 20 year plans that are intended to provide long-term sustainable management to forests (Musselwhite & Herath, 2005). However, the Tasmanian Regional Forest Agreement was criticized by some for the perception that it gave priority to the forest industry and did nothing to reduce the state's woodchip exports (Buckman, 2008).

Following the Regional Forest agreement process, The Wilderness Society began publicizing threats to tall old-growth forests in the Styx Valley. This area was the focus of logging plans that were released by Forestry Tasmania in 2000. In response The Wilderness Society came up with some interesting ways to publicize the issue. Some examples of these tactics include holding church services in a large hollowed tree, arranging visits by prominent musicians, scheduling bus tours to the area and the distribution of pamphlets that took visitors on a self-guided tour of the areas forests. This campaign eventually led to well-attended rallies throughout the state between the years of 2000-2004 with additional rallies being held on the mainland of Australia. Other forested areas throughout the state were also targeted for protection by the conservation movement throughout the 2000's including the Upper Florentine Valley and Weld Valley (Buckman, 2000).

The year 2013 marked a significant time for the conservation movement which had been campaigning for the protection of Tasmania's forests for decades. The passage of the Tasmanian Forest Agreement bill on April 30, 2013 was the culmination of a three year process in which the state's conservation movement and forest industry attempted to end the decade's long conflict within Tasmania's forests. This agreement offered the timber industry the support of Tasmanian environmental groups and an end to protest and marketing campaigns waged against the industry. In return conservationists were able to gain protection for of 500 000 hectares of new national parks and reserves. The passage of this legislation represents a culmination of a conflict that has played a central role in the management of Tasmania's forests for many years (Environment Tasmania, 2013).

# 2.8 Regulatory Framework

Past natural resource management conflicts in Vancouver Island and Tasmania have played an important role in shaping the land use decision making process in both of these places. The following section will detail the regulatory framework surrounding forest management in Vancouver Island and Tasmania.

## 2.8.1 Vancouver Island

To help address the growing number of forest management conflicts in British Columbia during the early 1990's CORE was created with the purpose of improving resource management, while giving stakeholders a voice in regional land use decision making processes (Hanna et. al., 2008). A commitment to public enquiry and disclosure helped to reinforce the goal of improving legitimacy of the land use decision making process (Mason, 1997). CORE would act as an independent advisor to the cabinet for land use strategies and related resource management issues, as well as facilitator for regional planning, community based participation and dispute resolution (Wilson, 1998). CORE also embraced economic, environmental and social sustainability principles, even making direct reference to international sustainable development protocols. (Mason, 1997)

Soon after its establishment CORE set out to create regional negotiation processes in areas that had been identified as having a high degree of land use conflict (Mason, 1997). This ultimately led to four regional processes being launched in Vancouver Island, Cariboo-Chilcotin, East Kootenays and West Kootenays-Boundary with the purpose of creating land use plans for each of these areas (Wilson, 1998). With these processes officials from CORE hoped to implement a shared decision making approach (Cashore, Hoberg, Howlett, Rayner & Wilson, 1998). However, each of the four regional processes were characterized by a wide diversity of interests being represented, which ultimately prevented full consensus from being achieved at any. Despite the collapse of the Vancouver Island process, a set of recommendations were prepared and the Vancouver Island Land Use Plan was delivered in February of 1994 (Wilson, 1998).

With the introduction of new protected areas, as well as land's that would be zoned as 'regionally significant', it was estimated that the original Vancouver Island Land Use Plan would result in a reduction of 6 percent in overall island harvest levels. This led to a hostile reaction from forestry dependent communities throughout Vancouver Island. In response the government launched an effort to adapt the original Vancouver Island Land Use Plan into a version that would be more acceptable to the forest industry, while accelerating efforts to devise a transition plan for workers. A revised version of the plan was released to the public in June of 1994 with provisions to help address the concerns that had been raised by forestry workers. Despite the government's indication that this version of the plan would be final, its release marked the start of further negotiations that mainly centered around the designation and boundaries of protected areas. In April of 1995 the government released its final version of the results of the plan can be likened to a broad multi-use plan with the additional inclusion of some protected area designations (Hanna et. al. 2008).

The Vancouver Island Land Use Plan does have certain provisions that are able to help protect or enhance tourism and recreation values. For example, Special Management Zones were established in certain areas where scenic, recreation and other natural values have been given management priority. The protection of these types of values has direct benefits to the naturebased tourism industry, due to its reliance on scenery, nature and outdoor recreation opportunities. Additionally, a number of new protected areas were created as a result of the Vancouver Island Land Use Plan. The establishment of these new parks helped to further enhance the scenic and natural values of Vancouver Island (British Columbia, 2000) strengthening nature-based tourism values.

The principle of equal representation was central during the creation of CORE and the Vancouver Island Land Use Plan (Hanna, et. al., 2008). It could be argued that certain elements of the four regional planning processes that arose from CORE followed similar principles to those discussed within place based governance theory. For example, public involvement was an important feature of the four regional planning processes that were undertaken by CORE. This idea is also central to place-based governance theory, as a way to help ensure that land management decision making reflects local and regional place-based identities (Edge &

McAllister, 2009). However, the difficulties experienced while trying to achieve consensus during the four regional planning processes speak to the challenges that can be associated with integrating place meanings into the land management decision making process.

In 1996 CORE was ended with the province handing over much of the land use and resource planning to various government agencies (Hanna et. al. 1996). Despite its short time in operation, CORE was an ambitious attempt to improve dispute resolution throughout the province of British Columbia (Mason, 1997). However, it has been suggested that one of the problems with CORE was the fact that recommendations from the government often seemed very different from what was being said during the consultation process (Burrows, 2000). Although the establishment of CORE and the subsequent regional planning processes did receive criticism, they were also responsible for reducing tensions between opposing sides by promoting a better understanding of other perspectives amongst stakeholders (Wilson, 1998).

It is important to note the exclusion of Clayoquot Sound from the Vancouver Island Land Use planning process. This is because forest management issues surrounding this area were being addressed through a separate planning process that was taking place around the same time (Hanna et. al., 2008). Because of forest management issues that were specific to this part of Vancouver Island an advisory panel was established that would be independent of government. The panel was given the task of assessing the environmental effects of a sustainable forest management plan that would be developed for the area. This group was known as the Scientific Panel for Sustainable Forest Practices in Clayoquot Sound. In 1995 the advisory panel brought forth its final set of recommendations for forestry within the Clayoquot Sound area (Lavallee & Suedfeld, 1997). Therefore, it was these principles that were used to help guide forest management in the Clayoquot Sound region of Vancouver Island, rather than the Vancouver Island Land Use Plan.

Due in part to the efforts of environmental groups who brought international attention to their old-growth forest protection campaign, the *Forest Practices Code* was developed and enacted into the legislature in July 1994 (Wilson, 1998). Its introduction was designed to help address a number of issues associated with forest management including poor stewardship, inadequate

monitoring and enforcement, as well as weak penalties for violators (Malkinson, 2011). Therefore, some defining features of the *Forest Practices Code* included an emphasis upon improved environmental protection and world class forest practices, as well as the introduction of stiff enforcement penalties. When the code was introduced the Minister of Forests stated that the introduction of the *Forest Practices Code* would ensure that ecological requirements would drive forest management decision making (Cashore et. al., 2001). Like the Vancouver Island Land Use Plan, it is likely that environmental provisions within the *Forest Practices Code* also provided benefits to the nature-based tourism industry.

Despite the environmental benefits associated with the *Forest Practices Code*, certain drawbacks were also identified. For example, the British Columbia Forest Practices Board (2006) accused the code of being too prescriptive and preventing innovation from occurring within the forest sector. Additionally, the *Forest Practices Code* was criticized for placing additional administrative burden upon government staff (Reader, 2006), as well as increasing financial costs to both government and industry. To help overcome some of these issues the *Forest and Range Practices Act* was introduced in 2004 replacing the *Forest Practices Code* (Malkinson, 2011).

Often described as a 'results-based' approach to forest management regulation (British Columbia Forest Practices Board, 2006), the *Forest and Range Practices Act* currently governs forest management within the province of British Columbia. Although it still tries to articulate a vision of stewardship, the new approach shifts the focus from forest management processes to the achievement of desired results. This allows tenure holders to design their own regulatory regimes that are tenure-specific, provided that they meet the specified government management objectives (Reader, 2006). These objectives can relate to a wide range of forest resource values and may consider things like timber, soils, community watersheds, visual quality and cultural heritage resources (British Columbia Forest Practices Board, 2006). Under the *Forest and Range Practices Act* tenure holders are required to develop Forest Stewardship Plans (Malkinson, 2011). The purpose of these plans is to describe how licensees will meet specific government objectives that have been established for the area. Despite helping to reduce costs and streamlining the management process, certain deficiencies have been identified. For example, Forest Stewardship Plans have been criticized for their complexity.

Additionally, Forest Stewardship Plans are the only plans in which the public has a legislated right to review and provide comment. According to the British Columbia Forest Practices Board (2006), this limited review period is not appropriate.

#### 2.8.2 Tasmania

Unlike Vancouver Island, there is no specific plan in Tasmania that governs land use throughout the island. However, the Tasmanian government introduced a framework in 1993 called the Tasmanian Resource Management and Planning System. The main purpose of this system is to describe the policy and regulatory arrangements that apply for the use and development of land and natural resources within the state (Cradle Coast Authority, 2010). Objectives of the Tasmanian Resource Management and Planning System include the promotion of sustainable resource development, encouragement of public involvement in decision making and the facilitation of economic development (NRM South, 2010). As part of the Tasmanian Resource Management and Planning System a series of regional land use strategies were created to guide coordination between local planning schemes and provide a regional perspective for the use and development of natural resources. Although these documents do not allocate land uses to specific areas they do provide a policy framework that helps to guide land use activities (Cradle Coast Authority, 2010). The Tasmanian Resource Management and Planning System does encourage public involvement in the decision making process. This suggests that there is an opportunity for local place meanings to be incorporated into regional land use strategies. However, the degree to which this actually occurs is not known.

Forestry Tasmania is a government business enterprise that has been entrusted with the stewardship of approximately 1.5 million hectares of State forest located on public land throughout Tasmania (Forestry Tasmania, 2012). The Management Decision Classification is a zoning system used by Forestry Tasmania to express the legal status of the land it manages and facilitate the management of competing demands for land use. This system identifies two levels of zoning which include primary zones and special management zones. Primary zones classify land according to its availability for timber production. Land within these zones is categorized to define whether it will be managed primarily for production or protection. Special management zones identify areas where management priority extends to specific values that are also considered to be of importance. The range of values that may be considered is

reflected in the wide variety of special management zone categories that are available, including agricultural, water, cultural heritage, recreation, flora and fauna (Forestry Tasmania, 2011). The presence of this classification system provides evidence that Forestry Tasmania management priorities go beyond timber production. Because the Management Decision Classification is a formalized a system providing protection to values important for nature-based tourism, it is likely that its use does benefit the tourism industry in Tasmania to some degree.

In Tasmania the Forest Practices Act was established in 1985 with the purpose of providing a consolidated legal framework for forest management in the state. Under this legislation the Forest Practices Authority was established to act as Tasmania's governing body for forest management. Additionally, a requirement of the Forest Practices Act was the development and implementation of the Forest Practices Code, which details forest management requirements that are applicable to both private and public forests (McDermott, Cashore & Kanowski, 2007). The Forest Practices Code was developed through extensive consultation and public comment with periodic reviews occurring to incorporate new suggestions from scientists, government, industry and the public. The main purpose of these forest management requirements is to help ensure that forestry is conducted in a manner that provides for the long-term maintenance of natural and cultural values (Forest Practices Authority, 2010a). The Forest Practices Code is supported by numerous technical guides and planning manuals that cover a wide range of topics including flora, fauna, visual resource management, cultural heritage and silviculture practices (McDermott, Cashore & Kanowski, 2007). Because it does provide protection for features that are important for nature-based tourism, the Tasmania Forest Practices Code inherently provides benefits to the tourism industry.

Forest Practice Plans are required for most forest practices on both public and private land. These plans must be prepared in accordance with the *Forest Practices Code*, as well as other legislation. In this context the term 'forest practices' refers to a wide range of activities including forest clearance, timber harvesting and even firewood collection in some cases (McDermott, Cashore & Kanowski, 2007) These documents provide specific details about the forest operation including the location of boundaries, roads, landings and bridges. Forest Practice Plans also contain prescriptions for the protection of natural and cultural values (Forest Practices Authority, 2010a). The Forest Practices Authority maintains a policy of communication in relation to Forest Practice Plans. Provisions within this policy require consultation with local government in relation to operations that could affect local water quality or areas zoned for landscape protection (Forest Practices Authority, 2010b). Before operation begins Forest Practice Plans must be certified by the Forest Practices Authority to ensure that they meet requirements (Forest Practices Authority, 2010a).

The federal government in Australia also plays a role in the development of forest policy. As a response to increasing forest use conflicts Regional Forest Agreements were developed in the 1990's as a way to integrate national and international forest management priorities into state and local legislation. These agreements were partly designed around the Montreal Process Criteria and Indicators for the Conservation and Sustainable Management of Temperate and Boreal Forests. The Tasmania Regional Forest Agreement was signed in 1997 helping to ensure that economic, social and environmental values all receive consideration during the forest management decision making process (McDermott, Cashore & Kanowski, 2007). Despite the apparent environmental benefits associated with the Tasmania Regional Forest Agreement it has also received some criticism. Opponents have claimed that this agreement has given priority to forest interests and done nothing to reduce woodchip exports. The Regional Forest Agreement was also denounced by some for a perception that it allowed for very little genuine public input. In spite of this criticism, the Tasmania Regional Forest Agreement was responsible for additional protection of significant forests as well as the expansion of already existing national parks (Buckman, 2008). Therefore, it is likely that certain outcomes may have provided benefits to the state's nature-based tourism industry.

The *Tourism and Forestry Protocol Agreement* also influences the way that forests are managed in Tasmania. This voluntary agreement was signed between Forestry Tasmania, Tourism Industry Council of Tasmania, Forest Industries Association of Tasmania and Private Forests Tasmania. Initially implemented in 2003 the purpose of this agreement is to help facilitate communication, consultation and liaison between the forestry and tourism industries. This is done through meetings, briefings, stakeholder consultation and information sharing. Within the agreement a set of guidelines were developed to advise conflict resolution for many of the common issues that arise between forestry and tourism (sightline planning, controlled burns, forestry access roads, transportation, branding and education). Compliance requirements
outline relevant rules, legislation, codes and policies that are enforceable. Additional commitments that have been made by all parties to facilitate co-operation between forestry and tourism are also outlined in this document (TICT, FT, FIAT & PFT, 2009). Even though the agreement itself is not governed by any specific laws or acts, it does provide a useful tool to help improve communication and understanding between the tourism and forest industries, which is something that often lacks in other regions where these two industries conflict.

#### 2.8.3 Summary

There are some significant differences to be noted between Vancouver Island and Tasmania in terms of the regulatory frameworks that surround the tourism and forest industries. Firstly, Vancouver Island is governed by the Vancouver Island Land Use Plan, which was a product of CORE. A key feature of this planning process was a shared decision making approach that attempted to achieve consensus among stakeholders. Due to the diversity of interests present, no consensus was met. However, the nature of the planning process meant that concerns from a wide range of interest groups were at least heard during the process. Unlike Vancouver Island, there is no single land use plan that covers the entire island of Tasmania. However, the Tasmanian Resource Management and Planning System describes relevant policy and regulatory arrangements that apply to the development of natural resources. As part of this system a series of regional land use strategies have been created to help guide natural resource planning. A primary objective of the Tasmanian Resource Management and Planning System is the encouragement of public involvement in the decision making process (NRM South, 2010). Despite their differences, it appears that the planning systems within Vancouver Island and Tasmania both allow for the integration of place-based meanings. However, further investigation would be required to understand the degree to which this has actually occurred.

Some interesting differences were also noted in the forest policy regulatory approaches of the two case study regions. According to McDermott, Cashore and Kanowski (2007), the forest policy structure within Tasmania is quite prescriptive when compared to other regions. This is much different from the British Columbia's *Forest and Range Practices Act*, which is often described as a results-based approach (British Columbia Forest Practices Board, 2006). Prescriptive methods tend to lay out certain steps that must be taken in order to achieve a specific management objective, whereas a results-based approach allows for a more flexibility

as long as objectives are achieved in the final outcome. Although a prescriptive approach was used in British Columbia until 2004 with the *Forest Practices Code*, it was criticized for increasing administrative burden and financial costs and eventually replaced by the less prescriptive *Forest and Range Practices Act* (Reader, 2006; Malkinson, 2011).

Finally, the *Tourism and Forestry Protocol Agreement* was developed with the purpose of facilitating communication and consultation between the tourism and forest industries in Tasmania. This voluntary agreement was signed between major tourism and forest industry stakeholder groups and provides guidelines to help advise during conflict resolution for many of the issues that commonly arise between forestry and tourism. This appears to be a useful tool for improving cooperation between the two industries. No equivalent agreement currently exists for Vancouver Island, or British Columbia as a whole, to help facilitate consultation between forestry and tourism.

# Chapter 3 Research Methods

# **3.1 Introduction**

This research seeks to describe the relationship between forest management practices and tourist preferences in destinations that market the natural environment and the outdoor activities that take place in these settings. It also attempts to uncover measures that can be used to better manage the conflict that often occurs between forestry and tourism. Therefore, several data collection methods were identified as appropriate for this investigation. In many cases, research that investigates the social world is best approached through the use of qualitative research methods (Kraus & Allen, 1997). These methods are especially useful for researchers who seek to answer questions about how a social experience is created and given meaning (Denzin & Lincoln, 2000) Therefore, a large portion of this research utilized qualitative approaches. However, quantitative techniques were also used in the construction of research instruments and analysis of the data.

Both qualitative and quantitative research methods have unique characteristics, as well as inherent strengths and weaknesses. For example, quantitative research techniques rely heavily on standardized data collection and statistical analysis making these methods particularly useful for theory/hypothesis testing, explanation and prediction. Qualitative methods, on the other hand, tend to be less standardized than most quantitative techniques. This makes them particularly useful for induction, exploration and theory/hypothesis generation (Johnson &

Onwuegbuzie, 2004). Mixed method research designs involve the collection, analysis and interpretation of both quantitative and qualitative data in an attempt to understand the same underlying phenomenon (Leech & Onwuegbuzie, 2009).

One of the major benefits associated with mixed methods research is that it allows the investigator to draw on the strengths and minimize weaknesses associated with quantitative or qualitative techniques when used individually (Johnson & Onwuegbuzie, 2004). In theory this will help the researcher to achieve complimentary results, by using the strengths of each method to enhance the other. Mixed methods also allow for triangulation of results, which involves the combination of two or more data sources to study the same research problem. This allows the researcher to gain a more complete understanding of the problem under investigation (Sale, Lohfeld & Brazil, 2002). Therefore, a mixed methods design was used for this research.

## 3.2 Comparative Case Study

Conflict between the tourism and forestry industries is a common issue in parts of the world where these two sectors contribute to regional economies. However, it is likely that certain aspects of this conflict and the measures taken to address these conflicts differ from region to region. Therefore, this investigation utilized a comparative case study method to gain a better perspective. This method is particularly useful for the investigation of global industries, such as tourism, because it better allows for researchers to develop generalizations and test theories (Pearce, 1993). Two regions where conflict between these industries is evident are Vancouver Island, Canada and Tasmania, Australia. Therefore, these two locations were identified as suitable settings for a study of this nature.

### 3.2.1 Case Study Regions

Vancouver Island and Tasmania are useful for analysis because of their many similarities and differences. Both forestry and tourism play important roles in the economies of both places (Tourism British Columbia, 2009a; Felmingham, et al., 2010). Benefits provided by these industries include the generation of tax revenue and foreign exchange dollars, as well as the creation of jobs. Both regions also market a variety of natural features and outdoor activities to

attract visitors. This is demonstrated in the 'Supernatural British Columbia' (Tourism British Columbia, 2010) and 'Pure Tasmania' (Pure Tasmania, 2010) marketing campaigns. However, forestry also relies on these same natural features to harvest timber and generate profits. It is these fundamental differences in resource use that ultimately lead to the conflicts that can occur between forestry and tourism in destinations that market the natural environment to potential visitors.

Despite the similarities that exist between these two places, there are also a number of significant differences. It is these differences that will likely provide the most insight into the impact that forestry can have on tourism image and how this can be minimized. One of the most notable differences between the two study regions is the degree to which forestry has become involved in the development of tourism attractions. Forestry Tasmania is somewhat unique as a forest management agency because of the extent to which it has pursued tourism developments within state forests. According to the Forestry Tasmania tourism and recreation policy, the organization is committed to providing recreation and tourism opportunities that raise awareness of forests and sustainable forest management (Forestry Tasmania, 1999). This is being accomplished through the development of various tourism sites throughout the state including the Tahune Airwalk, Styx Big Tree Reserve, Tarkine Forest Adventures and Arm River Education Reserve. Like Tasmania, the forestry industry in Vancouver Island has also developed tourism sites, such as the Jordan River Recreation Site. However, this has been carried out on a much smaller scale.

Another significant difference between the two study regions is the degree to which forestry and tourism consult with one another. In Tasmania, this has been partly facilitated by the Tourism-Forestry Protocol Agreement, which was implemented in 2009. This agreement was made between Forestry Tasmania, Tourism Industry Council Tasmania, Forest Industries Association of Tasmania and Private Forests Tasmania with the purpose of facilitating communication and consultation between the involved parties at both a strategic and operational level (TICT, FT, FIAT & PFT, 2009). Unlike Tasmania, very few provisions have been made on a formal level to help facilitate cooperation between forestry and tourism in British Columbia. The absence of this type of agreement is likely to result in decisions being made that are less sensitive to the needs of other sectors.

# 3.3 Questionnaire

Surveys are a useful and efficient tool for learning about people's opinions. This method allows researchers to estimate the characteristics of a large population with confidence by collecting information from a sample within that population (Dillman, Smyth & Christian, 2009). Surveys also allow for a large amount of data to be collected within a relatively short period of time (Kraus & Allen, 1997). For these reasons survey methods are ideal for situations where a significant amount of data is needed and it is impractical for the researcher to gather information from each member of a population. Because this particular research requires opinions from a large number of individual's survey methods were utilized.

A questionnaire was developed to address research question number one (i.e. impact that forestry practices can have upon tourist perceptions in regions that market the environment) and learn how forestry is viewed by tourists and how this may ultimately impact upon destination image. It also helped to address research question two (i.e. are certain tourist segments affected differently by the impacts of forestry in regions that market the natural environment) by providing insight into the ways that different user groups are affected by forest practices. The questionnaires were then administered at tourism attractions throughout both study areas. Different attraction types were selected in order to learn what effect forest practices have on various user groups. The questionnaire attempted to uncover visitor perspectives on forest management issues by administering questions relating to personal opinions, past experiences and demographic characteristics. To help reduce the likelihood of researcher influence questionnaires were self-completed in the absence of researchers and deposited into a drop box upon completion. The questionnaire was composed of nine sections, which are described below.

# 3.3.1 Sample Design

The questionnaire was administered at various tourist sites in order to solicit opinions from visitors at natural attractions. This strategy was chosen to help control some of the factors that may have influenced responses to certain questions (e.g. physical setting, time of year, stage of tourist experience, etc.). Due to the importance of capturing a diverse set of visitors, an entry/exit intercept method was used to recruit participants. The second research question is

concerned with differences that may exist between tourist market segments. Therefore, each destination included in this research contained three sample sites, each of which represented a different tourist market segment. The three tourist market segments were chosen based upon their importance to the tourism industry in both destinations. The three attraction types included in this investigation include back-country hiking areas, front-country visitor centers and sport fishing lodges. The actual sites where data collection took place are shown in Table 1.

Attraction Type	Vancouver Island	Tasmania		
Back-country hiking	West Coast Trail	Overland Track		
Front-country visitor center	Kwisitis Visitor Center	Cradle Mountain Visitor Center		
Sport Fishing	Winter Harbour Fishing	Central Highlands Fishing		

#### Table 1. Vancouver Island and Tasmania data collection sites.

The back-country hiking group consisted of individuals participating in multi-day hikes where a relatively high degree of self sufficiency is required (e.g. food, tents, sleeping bags, etc.). The two sites were chosen because of their similarities. In Vancouver Island the West Coast Trail is considered to be one of Canada's premier multi-day nature hikes. It is 75 kilometers long and generally takes walkers five to seven days (Parks Canada, 2013a). The Overland Track was chosen in Tasmania because of its reputation as one of Australia's best multi-day walks. This trail travels 65 kilometers through the Central Highlands of Tasmania and generally takes walkers six days (Tasmania Parks & Wildlife Service, 2012).

The front-country visitor centre group was composed of tourists who were travelling to various attractions throughout each case study region. Within the tourism industry this group is sometimes referred to as the 'touring sector' (Tourism British Columbia, 2009b). Park visitor centers were chosen with the purpose of targeting individuals who were travelling within each region (Vancouver Island and Tasmania) but also had an interest in natural attractions. Each front country visitor centre was chosen on account of the annual visitor numbers to the national park in which it was located. According to Parks Canada (2013b) Pacific Rim National Park (Kwisitis Visitor Centre) had the highest visitation out of any British Columbia national park in

2011-2012 with more than 750 000 visitors. Similarly Cradle Mountain-Lake St. Clair National Park received the most visits out of all national parks in Tasmania with 240 000 visitors during the 2012-2013 financial year (Tasmania Parks & Wildlife Service, 2013).

The sport fishing group consisted of individuals who were customers at fishing lodges. In Vancouver Island opinions were solicited from saltwater fishermen in a small village called Winter Harbour. This location was chosen because of its popularity as a sport fishing destination with tourists. In Tasmania trout fishermen were targeted in the Central Highland Lakes region. The reason that freshwater fishermen were surveyed in Tasmania is because this type fishing tends to be much more popular than saltwater fishing with visitors to Tasmania. The Central Highland Lakes region was specifically chosen due to the prevalence of trout fishing lodges in this area.

Sample periods were designed to maximize response rates and capture tourists who possess a broad range of characteristics. Because the questionnaire focused on tourism and outdoor activities, questionnaires were distributed during the peak summer tourist season when outdoor recreation participation is at its highest. Therefore, the months of July and August (2012) were selected for sampling visitors at Vancouver Island attractions, whereas data collection at attractions located in Tasmania was conducted during the months of January and February (2013).

All participants who appeared to be over the age of 18 were approached and asked to participate. This was done to comply with the UBC Behavioral Research Ethics Boards requirements for minors to obtain legal guardian consent to participate in any UBC related research. Those approached were asked to confirm their age. The questionnaire also contained a question asking respondents to indicate the year that they were born. In order to calculate response rate, the number of individuals approached for inclusion in the study was recorded. A standard introduction statement was read to prospective participants, which summarized the cover letter accompanying the questionnaire (Appendix A & Appendix B). Introduction statements, cover letters and questionnaires were all customized for the two study regions. Those who agreed to participate were given copies of the cover letter and questionnaire, which

was then completed independently. Upon completion participants deposited their surveys into a collection box that was located on site. This was done to help preserve the anonymity of research participants.

## 3.3.2 Questionnaire Design & Analysis

#### 3.3.2.1 Section 1: Pre-visit Destination Image

(Please indicate the degree of importance each of the activities/attractions are to you when thinking about tourism in Vancouver Island/Tasmania)

The purpose of this section is to understand respondent's pre-visit destination image of the study region that they are visiting. Ideally this question would be asked before a trip has taken place. However, the difficulty associated with surveying individuals before their visit and then again during their trip made it necessary to ask this question at the destination. This is similar to what has been done in other studies analysing destination image (Beerli & Martin, 2004b; Kwan, Eagles & Gebhardt, 2010). This question is composed of twenty items that are commonly associated with the tourism industry of each study region. Respondents were asked to rate the degree to which each item influenced their opinions about Vancouver Island and Tasmania as tourist destinations on a 5-point ordinal scale. Scale attributes were developed through content analysis of tourist brochures, websites and trip planners for both study destinations. This is similar to the approach used in other research investigating destination image (Obenour, Groves & Lengfelder, 2006). Final items were selected to represent a range of activities/attractions, as opposed to focussing on a single tourism subsector (e.g. nature-based tourism).

Destination image questions are considered to be important because it is often perceptions, rather than reality, that influence people to visit specific destinations (Gallarza et al., 2001). This is because the destination image formation process is developed through exposure to a variety of information sources, rather than first hand experiences. Therefore, this question helped to provide a picture of the destination images associated with each study region. Additionally, they were able to give insight into some of the more important factors that help to shape the tourism images of these two destinations.

Principle component analysis was applied to the scale of twenty items often associated with the tourism industry in Vancouver Island and Tasmania. The purpose of this was to understand the elements that help shape destination image in each case study region. This technique is particularly useful for condensing many variables and discovering any underlying dimensions that may exist between them. Factor rotation is a common method used to achieve the simplest and most practical factor solution possible. Therefore, varimax rotation was chosen because it is known to give the clearest separation of factors when compared to other rotation techniques (Hair et al., 2010). ANOVA is a test that is used to determine whether mean scores differ between groups. This test was used to reveal any differences that may exist between destination image item ratings between the three sample groups (i.e. back-country hikers, front-country visitor center guests, sport fishermen). Scheffe and Games-Howell post hoc tests were then used to help determine where significant differences exist. These two post-hoc tests were selected because of their accuracy with unequal sample sizes (Field, 2009)

#### 3.3.2.2 Section 2: Tourist Motivation

(Please indicate the degree to which each item motivated you to take this vacation to Vancouver Island/Tasmania)

The second section of the questionnaire contains twelve items that are commonly used to measure various aspects of tourist motivation. Items for this scale were adapted from past studies researching tourist motivation and destination image (Beerli & Martin, 2004a; Beerli & Martin, 2004b; Fodness, 1994). Respondents were asked to rate the degree to which each item was a factor in motivating them to take their vacation using a 5-point ordinal scale. This is important due to the strong link between motivation and destination choice (Jang, et al., 2009). When individuals choose to travel for leisure purposes, they may be motivated by a number of different reasons. Understanding motivations can prove valuable when it comes to segmenting tourist markets. This is because the various aspects of a particular destination's image are likely to appeal to certain types of motivations more than others, and therefore attract certain types of tourists (Jang, et al., 2009). By understanding tourist motivations we can better understand the types of experiences that visitors are seeking when visiting a particular destination.

Principle component analysis with varimax rotation was applied to the scale of twelve items that commonly motivate people to take vacations. Like the destination image scale, the purpose of

this was to reduce its dimensions and identify determinant factors that motivated respondents to take their vacation. Varimax rotation was also used to help interpret factors that emerged from the analysis, due to the clarity of separation between factors when compared to alternative rotation techniques (Hair et al., 2010).

# 3.3.2.3 Section 3: Recreation Opportunity Spectrum (Which settings do you most prefer when participating in outdoor recreation activities?)

The third section of the questionnaire provided participants with a list of six recreation activity setting types. Respondents were asked to indicate the recreation setting types that they preferred when participating in outdoor activities. This question was adapted from the Recreation Opportunity Spectrum (ROS) manual, which has been used to classify areas into recreation opportunity categories and assist resource managers when making decisions about management prescriptions that may affect these recreation values (British Columbia Ministry of Forests, 1998b). Past research has suggested that relationships do exist between recreation settings and experiential outcomes (Floyd & Gramman, 1997). Understanding the types of recreation activity settings that various tourist segments desire most can help to provide insight into the settings most likely to result in positive experiential outcomes and high levels of satisfaction.

To help understand differences in preference between the three sample groups univariate statistics were calculated. Chi-square is used to determine whether or not a relationship exists between two variables (e.g. is preference for certain setting types related to certain sample groups). Cramer's V post hoc test then conducted to measure the strength of any associations that may be present (Field, 2009).

3.3.2.4 Section 4: Visitor Experience

(How well did this visit to Vancouver Island/Tasmania meet your expectations?) (How likely is it that you would recommend Vancouver Island/Tasmania as a vacation destination to family/friends?) (How likely is it that you will return to Vancouver Island/Tasmania for vacation again in the future?) Section four of the questionnaire measured respondent's visitor experience. Because trip satisfaction is often described as the comparisons between pre-trip expectations and the degree to which these have been met (Jenkins, 1999), the first question in this section asks participants to rate the degree to which this particular trip has met their expectations. Past research has also demonstrated that a significant relationship exists between visitor satisfaction, intention to make a return visit and positive word-of-mouth communication (Kozak & Rimmington, 2000). Therefore, the next questions asked respondents how likely they are to revisit the destination again in the future and how likely they are to recommend the destination to others. Both of these questions were measured on a 5 point ordinal scale. The final two questions of this section asked respondents to identify up to three main reasons for visiting the destination again and three reasons that may prevent a return visit in the future. This is similar to a question format that was used by Vaughan & Edwards (1999) to learn about some of the factors that may influence levels of visitor satisfaction.

Univariate statistics were calculated for the three questions that measured satisfaction levels. ANOVA and post hoc tests (Games-Howell and Scheffe) were conducted on participant responses to the questions that asked about the degree to which expectations were met, likelihood of recommending the destination and the likelihood of returning in the future. The purpose of this was to reveal any significant differences in mean scores that may exist between sample groups. Games-Howell and Scheffe were chosen for post hoc tests because of their accuracy when comparing groups with unequal sample sizes (Field, 2009).

#### 3.3.2.5 Section 5: Nature-based Tourism Setting Preferences

(Listed below are statements expressing views about forestry and tourism. Please rate your level of agreement with each statement.)

The purpose of section five is to understand the preferences of visitors to forested areas and their expectations in regards to the forest industry. Because there have been very few studies in the past that have examined this particular idea, a scale was developed which contained twelve items. Six of these items were worded in a way that assessed the impact of forestry on tourism experience, while the other six items measured the impact that forestry has on outdoor recreation experience. In addition to this, half of the items included within this section were worded negatively, while the other half was composed of positively worded items. The purpose

of this is to help avoid acquiescence bias, which refers to a respondent's tendency to agree or disagree with all items irrespective of their content (DeVellis, 2003).

To help confirm the reliability of the scale measuring nature-based tourism setting preferences principle component analysis with varimax rotation was applied to the twelve questions used in this scale. After principle component analysis, scores were calculated for each participant. This was done by reverse coding all negatively worded items and adding the ratings given to produce a score out of 60. This was then divided by 12 to create an index out of 5. The possible scores that respondents could receive ranged between 1 and 5, with 1 representing a high degree of acceptance for settings with visible forest industry impacts and 5 representing a low degree of acceptance for these settings. Mean score comparisons between the three sample groups were then made using ANOVA and post hoc tests (Games-Howell and Scheffe).

#### 3.3.2.6 Section 6: Forestry Observations and Perceptions

(Please indicate which forestry impacts/activities you observed as a tourist to Vancouver Island/Tasmania. For each one observed, please indicate the degree to which it affected your perception of Vancouver Island/Tasmania as a tourist destination.)

Section six of the questionnaire addressed forestry activities in British Columbia and Tasmania. This question asked respondents to indicate the types of forestry impacts they had observed while travelling within Vancouver Island/Tasmania (harvested areas, plantations, log trucks, mills, etc.). This helped to provide an indication about how visible the industry is to tourists. Respondents were then asked how viewing forestry operations affected their perceptions of each destination (Vancouver Island & Tasmania). Past research has revealed that public acceptability is highest for scenes of preservation and retention, but quite low for modified landscapes (British Columbia Ministry of Forests, 2003; Ribe, 2004). These studies suggest that respondents who notice the presence of forestry impacts are most likely to have a negative perception of the industry. Therefore, it seems that a negative perception of forestry could translate into a negative perception of a region that markets the natural environment to attract tourists. This question will attempt to confirm or deny this assumption.

Chi-square was conducted on participant responses to the question that asked which forest industry impacts had been observed during their trip. The purpose of this was to understand the degree to which certain sample sites were associated with any of the four forest industry impact types measured. Phi post hoc test was then used to identify any significant differences that may exist. To help understand the effect that forestry impacts can have on visitor perceptions ANOVA was used to analyze the ratings given to each type of forest industry impacts observed. The purpose of this was to reveal where significant differences exist between the three sample groups. Games-Howell and Scheffe post hoc tests were selected due to their accuracy when comparing groups with unequal sample sizes (Field, 2009).

Linear regression is used to predict the value of a single dependent variable by using the values found within a set of independent variables (Hair, et al. 2010). Following ANOVA and post hoc tests, this technique was employed to help understand some of the ways that certain sample characteristics may influence the degree to which forestry impacts upon tourism image. Because perceptions of four forestry impact types were measured (i.e. harvested areas, tree plantations, log trucks and saw/pulp mills) four regression models were produced (one for each impact type). Independent variables used to try and predict forestry impact type ratings include age, gender, education, affiliation with conservation organizations, nature-based tourism setting preferences, environmental values, place of residency and destination image.

#### 3.3.2.7 Section 7: Forest Management Options

(Listed below are possible options for the management of Vancouver Island's/Tasmania's forests. Please indicate your level of agreement with each option.)

Section seven of the questionnaire focused on forest management options in the two study regions. In this section respondents were asked to rate their level of agreement with a variety of management options that could be used to help preserve visual quality within each study region. The format for this question is similar to that which was used in a questionnaire by Andereck & Vogt (2000) to measure the acceptability of various tourism development options. However, in this instance it has been adapted to measure acceptability of forest management options instead. Visual impacts play an important role in determining public acceptance of forest management practices (Kearney, 2001). Because tourists expect to gaze upon images that are depicted in postcards and other types of promotional media (Urry, 2002), it could be assumed

that they may be particularly sensitive to the visual impacts associated with forestry. This section attempts to test this assumption. Additionally, it was able to provide insight into the types of management practices that could be used to help maintain the images that are promoted to potential visitors. This is especially important when considering that a negative destination evaluation tends to result from a positive pre-visit destination image followed by a negative experience (Beerli & Martin, 2004b).

To help understand the forest management preferences of each sample group univariate statistics were calculated. ANOVA was conducted on the agreement ratings expressed for each management option presented. The main purpose of this was to learn about any significant differences that may exist between the sample groups. Games-Howell and Scheffe post hoc tests were used because of their accuracy when comparing groups with uneven sample sizes (Field, 2009).

#### 3.3.2.8 Section 8: New Ecological Paradigm

(Listed below are statement's expressing different views about the environment. Please indicate your level of agreement with each statement.)

As mentioned previously, environmental values play a role in determining how individuals perceive forest management practices. Therefore, the NEP scale was adopted for this questionnaire, due to its widely accepted use over the past three decades as a method for measuring environmental values (Dunlap et al., 2000). This scale contained 15 items used to measure an individual's beliefs about the relationship between human's and the environment. Past research has demonstrated that specific demographic characteristics tend to correspond with certain scores on the NEP scale (Dunlap, 2008). By comparing this data with respondent's demographic information, the question will attempt to validate this claim. Additionally, it will give an indication as to how environmental values can impact on the destination image formation process.

To help confirm the reliability of the New Ecological Paradigm (NEP) scale principle component analysis with varimax rotation was applied to the fifteen questions used to measure this construct. Once this was complete, scores were calculated for each of the participants. This was done by reverse coding all negatively worded statements and adding the ratings given to produce a score out of 75. This score was then divided by 15 to create a summed index out of 5, with 1 representing a anthropocentric worldview and 5 representing an environmentalist worldview. Comparisons between the three sample groups were then made using ANOVA and post hoc tests (Games-Howell & Scheffe).

#### 3.3.2.9 Section 9: Demographic Characteristics

The final section is composed of various questions asking respondents about themselves. The first question asked them to indicate the number of previous visits they had taken to the destination in which they are being surveyed. This will help to provide an indication of each research participant's familiarity with the destination in question. This is likely to affect various aspects of the decision making process such as motivations, expectations and prior knowledge. This was followed by a question asking respondents to state their usual place of residence. Research suggests that demographic characteristics relating to culture can play an important role in the public's perception of forest management practices (Gobster, 1996). Identifying respondent's place of residence gives an indication of some cultural aspects that may affect perception (e.g., environmental values, religion, dominant industries, quality of educational system, etc.). These questions also give an indication as to how familiar visitors are with each destination's forestry industry and the tourism image that they portray, as place of residence will affect a person's degree of exposure to the media of each study region.

Questions within the demographic characteristics asked about gender, age, education, occupation and affiliation with conservation organizations or natural resource agencies. Demographic characteristics, such as education level, culture and occupation can all play an important role in the formation of an individual's environmental values (Dunlap, 2008; Inglehart, 2008) and perception of forest management practices (Patel, Rapport, Vanderlinden & Eyles, 1999; Gobster, 1996; Ford et al., 2005). Because gender, occupation and affiliation with specific organizations are all major determinants of an individual's life experience, these questions help give an indication about the individual characteristics that influence perceptions of forestry. This was followed by an opportunity for respondents to add any comments they may have relating to either the tourism or forestry industry in the study site. The main purpose of this was to elicit any

additional feelings that respondents may have about the issues addressed in the survey instrument.

In order to characterize the sample groups, univariate statistics were calculated for demographic variables, including country of origin, age, gender, education levels and household income. Chisquare tests are used to determine whether or not there is a relationship between two categorical variables (Field, 2009). Therefore, this method was employed to find possible relationships between sample groups and each of the demographic variables that were measured. Although chi-square tests determine if a relationship exists between variables, post hoc tests are needed to reveal the path of any relationships that may be present (Hair, Black, Babin & Anderson, 2010). Phi is most useful for situations where categorical variables contain only two categories, whereas Cramer's V is used a categorical variable contains more than two categories (Field, 2009). Therefore, Phi and Cramer's V post hoc tests were conducted to identify significant differences between the three sample groups.

# 3.4 Semi-structured Interviews

The semi-structured interview is one of the more popular qualitative techniques employed by researchers. There are a number of advantages associated with having questions administered directly by a researcher. For example, interviewers are generally able to explain questions better than a written questionnaire and can answer any questions that may be unclear to the participant. It also allows researchers to probe deeper for answers than a typical questionnaire. This was especially useful for learning about the specific forest management issues that affect tourism and how this can be minimized. Finally, interviewers can observe the body language of respondents as well as ask questions (Babbie, 2004).

The purpose of the semi-structured interviews was to test hypotheses number one and learn about the impact that forestry can have on tourism image. Additionally, the interviews addressed research question three by uncovering measures that could be used to better integrate tourism values into forest management decision making. Semi-structured interviews were conducted with forestry professionals from government and industry, in both study regions. Tourism professionals from academia, government and industry were also interviewed. To control the content and scope of the interviews, a guide was developed to help ensure that all relevant topics were covered. All interviews were digitally recorded and then transcribed to a text document.

## 3.4.1 Sample Design

To understand the perspectives of individuals who are knowledgeable about some of the conflicts that can occur between forestry and tourism, a set of broad interview topics were developed. These topics were then used to conduct semi-structured interviews in Vancouver Island and Tasmania with individuals who are employed in either the tourism or forestry sectors. To help capture a broad range of opinions a list of potential interviewees was first compiled. These individuals were then sent an email explaining the study and requesting an interview. The email also asked these individuals for help in identifying additional interviewees who could provide unique insight into the research problem. Those who agreed to be interviewed were then sent a consent form that was signed and returned in order to comply with the UBC Behavioral Research Ethics Boards requirements. All semi-structured interviews were conducted either by phone or in-person.

### 3.4.2 Interview Topics

One of the main benefits associated with the interview method is the ability that it gives researchers to follow up on certain questions by asking for more detail (Kraus & Allen, 1997). Therefore, many of the interviews differed in terms of some of the topics that were discussed and the depth that these discussions went into. However, they were all guided by a predetermined script containing questions that could be categorized into three broad topics (Appendix C). The primary purpose of the semi-structured interviews was to address the third research question (i.e. how to manage forests to ensure tourism values are not compromised by other forest interests). Therefore, interview questions were designed to uncover information about this. The introductory theme was designed to provide context about the participant's background, knowledge and experience. The other two interview themes were chosen based upon the type of information required to understand the types of conflicts that occur between forestry and tourism in each case study destination, as well as possible solutions used to help address these types of issues.

#### 3.4.2.1 Section I: Introductory Questions

The first section asked respondents a series of introductory questions. This included items such as occupational history and length of time at current position. The purpose of this was to help provide an indication of the participant's experience in the tourism industry and familiarity with issues being discussed. Respondents were also asked about their time spent living and working in the region. Because an individual's local residence has been shown to correspond with both place meaning (Eisenhauer et al., 2000; Budruk et al., 2011) and environmental values (Abrams, et al., 2005), these questions helped to provide insight into some of the life experiences that may have influenced the values expressed by each interviewee.

#### 3.4.2.2 Section 2: Forest/Tourism Conflicts

Past research has documented public displeasure with the visual impacts associated with the forest industry (Picard & Sheppard, 2001; British Columbia Ministry of Forests, 2003). Because the British Columbia and Tasmania tourism industries rely so heavily on scenic values is seems likely that this could lead to conflict with the forest industry. Therefore, the purpose of questions contained in this section was to reveal some of the potential threats that forestry may pose to the tourism industry in each study region.

#### 3.4.2.3 Section 3: Forestry/Tourism Conflict Resolution

Studies have demonstrated that certain measures can be taken to reduce the potential impact that forestry can have upon tourism values (Jenson, 2000; Tyrvainen, Silvennoinen & Nousiainen, 2002). The purpose of the third section was to help uncover additional measures that could be used to reduce these types of conflicts. Therefore, these questions asked participants about methods that could be used to help reduce the potential impact that forestry can have upon tourism values.

# 3.5 Summary

The questionnaire was developed with the primary purpose of addressing the first research question, which seeks to understand the potential impact that forestry can have on tourism image. Therefore, questions focused on elements associated with the tourist experience and the ways in which forestry may have impacted upon this. In order to address the second research

question and understand the differences between tourist user groups, questionnaires were distributed at various sites throughout both case study regions.

The main purpose of the semi-structured interviews was to address the first and third research question and understand ways in which forests can be managed to help ensure that tourism and recreation values are not compromised by other forest interests. Therefore, interview topics were focused upon the sources of conflict between forestry and tourism, as well as ways in which these conflicts could potentially be resolved.

# Chapter 4 Vancouver Island Results

# 4.1 Introduction

This chapter presents results from the questionnaire that was presented to Vancouver Island tourists. It is important to note possible limitations associated with these results in relation to non-response bias. Because the survey instrument was only printed in English, those who did not speak the language were unable to participate. It is possible that a survey targeting another language group may have produced different results. Additionally, certain individuals who were approached agreed to participate, while others declined. It is possible that certain differences between those who declined and those that accepted could have influenced results. The chapter begins with a short discussion explaining the methods used for analysis. This is followed by a section providing an overview of the methods used to summarize the sample characteristics. Sample characteristics and results are then discussed.

# 4.2 Methods of Analysis

An alpha level of 0.05 was used for all statistical tests. SPSS version 20.0 was used to conduct all calculations and analyses. Chi-square along with Phi and Cramer's V post hoc tests were used to discover any relationships present between categorical variables. These include the responses to questions about demographic characteristics, recreation opportunity spectrum and

observations of forestry impacts. Principle component analysis was used to analyze responses to the questions about destination image and tourist motivation. The purpose of this was to reveal any underlying dimensions between the variables measuring these constructs. Principle component analysis was also used to test the reliability of the scales measuring environmental values and nature-based tourism setting preferences. Once reliability had been tested for these two scales (environmental values and nature-based tourism setting preferences) a score out of five was created for each of these constructs. Comparisons of these scores were then made between groups using ANOVA and post hoc tests (Games-Howell & Scheffe). ANOVA and post hoc tests were also used to make comparisons between groups for questions measuring visitor experience, management preferences and forestry industry impact ratings. Finally, regression analysis was used to uncover any variables that could help to predict ratings given to each of the four forest industry impacts measured (i.e. harvested areas, tree plantations, log trucks, saw/pulp mills).

## 4.3 Results

Results for the three sample groups are presented below.

### 4.3.1 Sample Characteristics

The response rates for Winter Harbour and West Coast Trail respondents were just below 70%. Response rate for Kwisitis Visitor Centre participants was just below 50%. (Table 2)

Site	Respondents	Refusals	Sample Size	Response Rate
West Coast Trail	165	71	236	69.92%
Kwisitis Visitor Centre	160	176	336	47.62%
Winter Harbour Fishing	64	29	93	68.82%
Total	389	276	665	58.50%

Table 2.	Vancouver	Island	response	rates.
		loiaila		

Response rates for the visitors to the Kwisitis Visitor Centre were much lower than the other two sample sites (< 50%). This could possibly be attributed certain characteristics associated with visits to this particular site. For example, individuals visiting the Kwisitis Visitor Centre generally spent less time at this site than visitors to the other two sample sites. Because of this, they generally had less free time available while at this site in comparison to the other two sites.

### 4.3.1.1 Demographic Characteristics

Country of origin statistics were calculated for all sample groups with 362 out of 389 respondents (93.1%) reporting their country of origin. Overall, most participants were Canadian residents. Apart from Canada, the top six countries where respondents were visiting from include the United States, Germany, UK, Netherlands, France and Belgium. However, country of origin statistics varied considerably between the three sample sites. For example, a majority of Winter Harbour fishing guests were United States citizens, while a very small number of West Coast trail walkers identified the United States as their place of residence. The distribution of respondent's country of origin varied depending on the sample site (Table 3).

	West Coast		Kwisitis Visitor		Winter Harbour		Total	
	Ir	all	Cen	tre	Fishing			
Country	n	%	n	%	n	%	n	%
Canada	126	84.56	71	47.02	11	17.74	208	57.46
USA	4	2.68	28	18.54	51	82.26	83	22.93
Germany	8	5.37	19	12.58	0	0.00	27	7.46
UK	7	4.70	5	3.31	0	0.00	12	3.31
Netherlands	0	0.00	8	5.30	0	0.00	8	2.21
France	1	0.67	6	4.00	0	0.00	7	1.93
Belgium	0	0.00	6	4.00	0	0.00	6	1.66
Other	3	2.01	8	5.30	0	0.00	11	3.04
Total	149	99.99	151	100.05	62	100.00	362	100.00

Table 3. Vancouver Island respondent's country of origin.

Gender information was calculated for all sample groups with 369 out of 389 respondents (94.86%) reporting their gender. Overall, there was a higher proportion of males who completed

the questionnaire when compared to females. However, this can be partly attributed to the significantly higher proportion of males encountered at the West Coast Trail and Winter Harbour data collection sites. The gender distribution at each site is depicted in Table 4.

	West Coast		Kwisitis Visitor		Winter H	larbour	Total		
	Trail		Centre		Fishing				
Gender	n	%	n	%	n	%	n	%	
Male	96	63.16	73	46.79	57	93.44	226	61.25	
Female	56	36.84	83	53.21	4	6.56	143	38.75	
Total	152	100.00	156	100.00	61	100.00	369	100.00	

Table 4. Gender distribution of Vancouver Island respondents.

Age information was calculated for all sample groups. Out of 389 respondents, 335 (86.12%) reported this information. The age of respondents ranged from 18 years old through to the age of 76. The average age of respondents was 42 years of age, however this varied between the three sample groups. Age distribution for each sample site is presented in Table 5.

 Table 5. Age distribution for Vancouver Island respondents.

Sample Group	n	Mean	Min.	Max.	Range	95%CI	SD
West Coast Trail	141	34.67	18	74	56	<u>+</u> 1.86	11.24
Kwisitis Visitor Centre	142	44.63	18	74	56	<u>+</u> 2.37	14.43
Winter Harbour Fishing	52	55.92	19	76	57	<u>+</u> 3.43	12.61
Total	335	42.19	18	76	58	<u>+</u> 1.59	14.87

Education statistics were calculated for all sample groups. Out of 389 respondents, 367 (94.34%) reported this information. A chi-square test for association was conducted between sample sites and education levels, which revealed that a small relationship does exist between these two variables ( $\chi^2$  = 30.903; df = 10, p = 0.001; Cramer's V = 0.205). A lower proportion of Winter Harbour fishing guests had completed post-secondary education (undergraduate or graduate degree) when compared to Kwisitis Visitor Centre guests and West Coast Trail walkers (see Table 6).

	West Tr	Coast rail	Kwisitis Cen	Kwisitis Visitor Centre		Winter Harbour Fishing		Total	
Education	n	%	n	%	n	%	n	%	
Some High School	1	0.66	1	0.65	1	1.67	3	0.82	
High School	6	3.95	7	4.52	8	13.33	21	5.72	
Some University or College	23	15.13	18	11.61	19	31.67	60	16.35	
University or College Degree	76	50.00	60	38.71	18	30.00	154	41.96	
Graduate Degree	42	27.63	63	40.65	13	21.67	118	32.15	
Other	4	2.63	6	3.87	1	1.67	11	3.00	
Total	152	100.00	155	100.1	60	100.01	367	100.00	

 Table 6. Education levels for Vancouver Island respondents.

Household income data was collected and calculated for all groups sampled. Out of 389 respondents, 334 (85.86%) reported this information. A chi-squared test for association revealed sample group and household income were not associated ( $\chi^2$  = 30.079; df = 22, p = 0.117; Cramer's V = 0.212). Household income for the three sample groups can be seen in the Table 7.

	West Coast		Kwisitis	Visitor	Winter I	Harbour	Total	
	Tr	ail	Cen	Centre		ing		
Income	n	%	n	%	n	%	n	%
<\$10 000	10	7.14	4	2.92	1	1.75	15	4.49
\$10 000 - \$19 999	12	8.57	7	5.11	1	1.75	20	5.99
\$20 000 - \$29 999	8	5.71	7	5.11	1	1.75	16	4.79
\$30 000 - \$39 999	8	5.71	4	2.92	2	3.51	14	4.19
\$40 000 - \$49 999	14	10.00	13	9.49	4	7.02	31	9.28
\$50 000 - \$59 999	7	5.00	8	5.84	2	3.51	17	5.09
\$60 000 - \$69 999	8	5.71	14	10.22	7	12.28	29	8.68
\$70 000 - \$79 999	12	8.57	8	5.84	2	3.51	22	6.59
\$80 000 - \$89 999	7	5.00	11	8.03	2	3.51	20	5.99
\$90 000 - \$99 999	11	7.86	14	10.22	4	7.02	29	8.68
\$100 000 - \$149 999	27	19.29	19	13.87	12	21.05	58	17.37
>\$149 999	16	11.43	28	20.44	19	33.33	63	18.86
Total	140	99.99	137	100.01	57	99.99	334	100.00

 Table 7. Income levels for Vancouver Island respondents.

Respondents were asked to indicate whether they had worked or volunteered for a conservation organization in the past. A chi-square test for association was conducted to see if there was any association between sample group and conservation work/volunteer experience This analysis revealed that there is no relationship between sample site and this variable ( $\chi^2 = 1.492$ ; df = 2, p = 0.379). Number of participants who have either volunteered or been employed by a conservation organization are shown in Table 8.

 Table 8. Vancouver Island respondent's affiliation with conservation organizations.

West Tr	Coast ail	Kwisitis Visitor Centre		Winter Harbour Fishing		То	tal
n	%	n	%	n	%	n	%
14	8.48	21	13.13	8	12.50	43	11.05

#### 4.3.1.2 Destination Image Scale

The destination image scale was composed of twenty items. Participants were asked to rate the degree to which each item influenced their opinions about Vancouver Island as a tourist destination. The frequencies of response for each item can be seen in Table 9.

ltem	n	Not	%(2)	%(3)	%(4)	Very	95%	SD	mean
		Important				Important	CI		
		%(I)				%(5)			
Parks & protected areas	388	0	1.3	5.9	15.5	77.3	<u>+</u> 0.064	.642	4.69
Local wine, beer, etc.	386	27.5	23.3	25.4	15.5	8.3	<u>+</u> 0.127	1.269	2.54
Unique/rare animals	385	1	3.4	14.8	27	53.8	<u>+</u> 0.090	.912	4.29
Nightlife/Entertainment	388	37.6	30.9	21.6	8.2	1.5	<u>+</u> 0.102	1.031	2.05
Quality Restaurants	387	8.3	12.9	36.7	31.5	10.6	<u>+</u> 0.106	1.071	3.23
Nature-based tours	388	5.4	11.1	23.7	37.4	22.4	<u>+</u> 0.110	1.112	3.60
Camping	389	6.2	6.7	15.4	26.5	45.2	<u>+</u> 0.120	1.197	3.98
Unique/rare plants	389	2.6	11.6	20.3	27.8	37.8	<u>+</u> 0.112	1.123	3.87
Fishing	387	19.9	19.6	20.7	17.8	22	<u>+</u> 0.143	1.433	3.02
Festivals, concerts, markets, museums, etc.	386	7.8	21.5	28.8	31.1	10.9	<u>+</u> 0.112	1.118	3.16
Colonial era history/structures	387	5.9	14	34.1	32.6	13.4	<u>+</u> 0.106	1.063	3.34
Quality accommodation	385	6	13.5	30.6	36.9	13	<u>+</u> 0.106	1.061	3.37
Diving/snorkeling	385	25.7	23.1	25.7	16.9	8.6	<u>+</u> 0.127	1.269	2.59
Tourist information centres	388	3.6	9	29.6	36.1	21.6	<u>+</u> 0.102	1.032	3.63
Natural scenery	386	0	0.5	2.8	14.8	81.9	<u>+</u> 0.051	.510	4.78
Mild weather	386	6.7	9.1	30.3	35.5	18.4	<u>+</u> 0.110	1.098	3.50
Aboriginal culture/history	388	2.8	8.8	25	35.1	28.4	<u>+</u> 0.104	1.044	3.77
Local food	388	1.8	6.4	25.5	41	25.3	<u>+</u> 0.094	.946	3.81
Hiking	388	2.3	2.6	10.8	26.8	57.5	<u>+</u> 0.094	.937	4.35
Transportation networks	387	3.6	10.6	28.7	34.9	22.2	<u>+</u> 0.106	1.055	3.61

Table 9. Frequencies of response for Vancouver Island	destination image items (bold numbers indicate most
frequently recorded response).	

In order to develop destination image factors to be used in regression analysis principle component analysis with varimax rotation was applied to the scale of twenty items commonly associated with Vancouver Island's tourism industry. At the same time Cronbach's alpha was used to test the reliability of the scale. Cronbach's alpha revealed that the overall reliability of the destination image scale was quite high (Cronbach's  $\alpha = .787$ ). The Kaiser-Meyer-Olkin

verified the sampling adequacy for this analysis (KMO = .781) and all KMO values for individual items were > .614. This is well above the acceptable limit of .5 (Field, 2009). Bartlett's test of sphericity  $\chi^2(190) = 1920.314$ , p < .001 indicates that correlations between items are sufficiently large enough for principle component analysis. Eigenvalues were obtained for each component. Five components had eigenvalues above Kaiser's criterion of 1. In combination these five components were able to explain 55.43% of the variance. Table 10 depicts the factor loadings after rotation along with the value of Cronbach's alpha for each factor that was identified.

Table 10. Factor loading for Vancouver Island destination image items (bold numbers indicate loading above0.4)

ltem	I	2	3	4	5
Quality restaurants	.781	.157	038	160	054
Local wine, beer, etc.	.728	207	041	.102	.208
Nightlife/entertainment	.712	123	230	.215	033
Local food	.586	.293	.235	.060	099
Festivals, concerts, markets, museums, etc.	.545	.356	008	.225	029
Quality accommodation	.491	.432	185	378	156
Tourist information centres	.127	.689	.180	.069	.027
Aboriginal culture/history	003	.593	.276	.121	.128
Colonial era history/structures	.010	.574	124	.224	.042
Nature-based tours	.336	.423	.197	.094	.294
Fishing	.180	.220	720	.045	.101
Parks and protected areas	.082	.204	.655	.211	.304
Hiking	.012	.151	.630	.541	.026
Natural scenery	026	.263	.579	003	.107
Camping	.006	.057	.160	.763	.071
Transportation networks	.168	.378	.061	.547	255
Diving/snorkeling	.238	.335	125	.534	.217
Unique/rare animals	.065	.344	.137	.021	.674
Unique/rare plants	302	.416	.290	.133	.630
Mild weather	.075	.298	.068	.017	603
Eigenvalues	2.792	2.639	2.140	1.881	1.634
% of variance	13.962	13.194	10.698	9.403	8.168
α	.746	.598	.261	.536	.261

According to Hair, et al. (2010) the lower limit of acceptability for Cronbach's alpha in exploratory research is .60. Therefore, this was used as a cutoff point for factors to be included in regression analysis. Factors three and five had a low degree of reliability both of which had a Cronbach's alpha value of .261. This can be partly explained by the presence of an item with a negative loading for each of these factors. Removing these items improves the alpha value significantly for both factor 3 (Cronbach's  $\alpha = .678$ ) and factor 5 (Cronbach's  $\alpha = .689$ ). This analysis suggests that component 1 represents urban attractions, component 2 represents touring, component 3 represents hiking, component 4 represents camping/diving and component 5 represents flora and fauna. The negative loading on factors three and five seems to provide insight into the desires of the three sample groups. Because fishing loads negatively on factor three it suggests that individuals who consider protected areas, hiking and natural scenery to be important are less likely to consider fishing to be important. In addition to this, mild weather loads negatively on factor five. This could suggest that individuals who are interested in the enjoyment of flora and fauna would prefer to do this in warm weather.

To help understand which items were most important for shaping destination image mean ratings for each item in the scale were ranked. Comparisons were also made between the three sample groups using ANOVA to help understand how destination image differs between them. Table 11 depicts the differences in importance given to each destination image item according to each of the three sample groups tested. The twenty items have been organized according to the importance ratings given by respondents. Therefore, the first item in the list was considered to be most important and the final item considered as least important. Overall importance ratings differed between the three sample groups. Therefore, numbers contained within brackets indicate the rank in importance of each item for the three sample groups tested.

Item	n	Mean	West Coast Trail	Kwisitis Visitor Center	Winter Harbour Fishing
Natural scenery	386	4.78 <sup>1</sup>	4.84 <sup>a</sup> (1)	4.85 <sup>a</sup> (2)	4.45 (2)
Parks & protected areas	388	4.69 <sup>1</sup>	4.78 <sup>a</sup> (2)	4.88 <sup>a</sup> (1)	3.97 <b>(3</b> )
Hiking	388	4.35 <sup>2</sup>	4.70 <b>(3)</b>	4.47 <i>(4)</i>	3.13 <i>(11t)</i>
Unique/rare animals	385	4.29 <sup>3</sup>	4.25 <b>(5)</b>	4.53 <i>(</i> <b>3</b> <i>)</i>	3.81 <i>(</i> 5)
Camping	389	3.98 <sup>2</sup>	4.56 <i>(4)</i>	3.69 (10)	3.20 (10)
Unique/rare plants	389	3.87 <sup>3</sup>	3.79 (7)	4.34 (5)	2.88 (16)
Local food	388	3.81 <sup>4</sup>	3.70 <sup>a</sup> (8)	4.02 (7)	3.59 <sup>a</sup> (6)
Aboriginal culture/history	388	3.77 <sup>3</sup>	3.67 <b>(9)</b>	4.16 <i>(6)</i>	3.08 (14)
Tourist information centres	388	3.63 <sup>4</sup>	3.47 <sup>a</sup> (12)	3.99 <i>(8)</i>	3.13 <sup>a</sup> (11t)
Transportation networks	387	3.61 <sup>5</sup>	3.84 <b>(6)</b>	3.53 <sup>a</sup> (11)	3.25 <sup>a</sup> (9)
Nature-based tours	388	3.60 <sup>3</sup>	3.51 (11)	3.94 <b>(9)</b>	3.00 (15)
Mild weather	386	3.50 <sup>6</sup>	3.59 <sup>a</sup> (10)	3.43 <sup>a</sup> (13t)	3.43 <sup>a</sup> (7)
Quality accommodation	385	3.37 <sup>7</sup>	3.10 <i>(16)</i>	3.48 <sup>a</sup> (12)	3.83 <sup>a</sup> (4)
Colonial era history/structures	387	3.34 <sup>6</sup>	3.33 <sup>a</sup> (13)	3.43 <sup>a</sup> (13t)	3.11 <sup>a</sup> <i>(13)</i>
Quality restaurants	387	3.23 <sup>6</sup>	3.16 <sup>a</sup> (15)	3.25 <sup>2</sup> (16)	3.39 <sup>a</sup> (8)
Festivals, concerts, markets, museums, etc	386	3.16 <sup>6</sup>	3.17 <sup>a</sup> (14)	3.26 <sup>a</sup> (15)	2.87 <sup>a</sup> (17)
Fishing	387	3.02 <sup>8</sup>	2.83 <sup>a</sup> (18)	2.51 <sup>a</sup> (17)	4.80 (1)
Diving/snorkeling	385	2.59 <sup>5</sup>	2.90 (17)	2.50 <sup>a</sup> (18)	2.08 <sup>a</sup> (20)
Local wine, beer, etc.	386	2.54 <sup>6</sup>	2.59 <sup>a</sup> (19)	2.47 <sup>a</sup> (19)	2.58 <sup>a</sup> (18)
Nightlife/entertainment	388	2.05 <sup>9</sup>	2.14 <sup>a</sup> <i>(20)</i>	1.85 <i>(20)</i>	2.33 <sup>a</sup> (19)

Table 11. Importance of Vancouver Island destination image items (numbers in brackets indicate the ranking of each item for the three sample groups).

<sup>a</sup> Sample groups are statistically similar.

<sup>1</sup> Mean responses from Winter Harbour Fishing guests were significantly lower than the mean responses from WCT hikers and Visitor Centre quests.

<sup>2</sup>Mean responses from WCT hikers were significantly higher than those from Visitor Centre guests. Mean responses from Visitor Centre guests were significantly higher than those from Winter Harbour Fishing guests. <sup>3</sup>Mean responses from Visitor Centre guests were significantly higher than the mean responses from WCT hikers. The mean

responses for WCT hikers were significantly higher than the mean response for Winter Harbour Fishing guests.

Mean responses from Visitor Centre guests were significantly higher than mean responses from WCT hikers and Winter Harbour Fishing guests. <sup>5</sup>Mean responses from WCT hikers were significantly higher than mean responses from Visitor Centre guests and Winter Harbour

Fishing guests.

<sup>6</sup>No significant differences found between groups.

<sup>7</sup>Mean responses from WCT hikers were significantly lower than mean responses for Visitor Centre guests and Winter Harbour Fishing guests. <sup>8</sup>Mean responses from Winter Harbour Fishing guests were significantly higher than mean responses from WCT hikers and Visitor

Centre guests. <sup>9</sup>Mean responses from Visitor Centre guests were significantly lower than responses from WCT hikers and Winter Harbour Fishing guests.

#### 4.3.1.3 Motivation

The tourist motivation scale was composed of twelve items. Participants were asked to rate the degree to which each item motivated them to take their vacation. The frequencies of responses for each item in the scale are depicted in Table 12.

Item	n	Not Important %(1)	%(2)	%(3)	%(4)	Very Important %(5)	95% Cl	SD	mean
Escape daily routine	382	3.1	4.7	10.7	29.8	51.6	<u>+</u> 0.102	1.024	4.22
Intellectual improvement	384	4.7	13.3	33.6	34.4	14.1	<u>+</u> 0.104	1.035	3.40
Go to fashionable places	385	47	30.9	16.4	4.2	1.6	<u>+</u> 0.096	.955	1.82
Experience different cultures/ways of life	384	2.9	10.7	22.4	34.6	29.4	<u>+</u> 0.108	1.074	3.77
Do exciting things	383	0.8	2.3	12.5	38.1	46.2	<u>+</u> 0.082	.826	4.27
Rest and relaxation	383	0.8	5.2	15.7	34.5	43.9	<u>+</u> 0.092	.924	4.15
Experience new/different places	382	0	0.8	4.7	29.6	64.9	<u>+</u> 0.063	.620	4.59
Seek diversion and entertainment	383	8.4	25.1	34.7	22.7	9.1	<u>+</u> 0.110	1.087	2.99
Alleviate stress and tension	384	2.9	7.3	17.7	36.2	35.9	<u>+</u> 0.104	1.042	3.95
Tell friends about vacation experiences	383	16.7	17.2	25.6	23	17.5	<u>+</u> 0.133	1.330	3.07
Go to places friends have not visited	385	31.2	22.6	22.9	10.6	12.7	<u>+</u> 0.135	1.362	2.51
Seek adventure and pleasure	385	1	2.3	13.5	34.5	48.6	<u>+</u> 0.086	.858	4.27

 Table 12. Frequencies of response for Vancouver Island motivation items (bold numbers indicate most frequently recorded response).

Principle component analysis with varimax rotation was applied to the scale to uncover underlying dimensions between the variables measuring this construct. Cronbach's alpha revealed that the overall reliability of this scale was fairly high (Cronbach's  $\alpha$  = .718). No items were identified that would improve the reliability of the scale with their omission. The Kaiser-Meyer-Olkin verified the sampling adequacy for this analysis, KMO = .663 and all KMO values for individual items were > .627, which is above the acceptable limit of .5 (Field, 2009). Bartlett's test of sphericity  $\chi^2$  (66) = 909.886, p < .001 indicates that correlations between items were sufficient for principle component analysis. Analysis was run to obtain eigenvalues for each component. Five of these had eigenvalues above Kaiser's criterion of 1 and in combination explained 67.10% of the variance. Table 13 depicts the factor loadings after rotation for the

entire sample along with the value of Cronbach's alpha for each factor that was identified. Analysis suggests that component 1 represents prestige, component 2 represents relaxation, component 3 represents entertainment and component 4 represents knowledge. Items within component five do not appear to represent any specific dimension.

ltem	I	2	3	4	5
Go to places friends haven't visited	.888	.097	.153	.066	.089
Tell friends about vacation experiences	.880	.132	.143	009	.098
Alleviate stress &tension	.176	.793	.031	.080	.161
Rest &relaxation	.105	.758	.070	.074	244
Escape daily routine	029	.650	.040	.169	.316
Do exciting things	.124	.036	.812	.116	.059
Seek adventure & pleasure	.153	.048	.796	.052	.035
Experience different ways of life	.075	.030	.139	.802	.107
Intellectual improvement	.035	.181	151	.707	.207
Experience new/different places	047	.126	.308	.647	260
Seek diversion & entertainment	049	.183	.424	020	.676
Go to fashionable places	.336	.013	106	.154	.663
Eigenvalues	1.77	1.74	1.67	1.65	1.23
% of variance	14.73	14.49	13.93	13.73	10.22
α	.831	.636	.669	.580	.351

Table 13. Factor loadings for Vancouver Island motivation items (bold numbers indicate loadings above 0.4).

#### 4.3.1.4 Recreation Opportunity Spectrum

Participants were provided with a list of six recreation activity setting types and asked to indicate the settings that they preferred when participating in outdoor activities. A chi-square test for association was conducted between sample sites and recreation setting preferences, which revealed that statistically significant relationships do exist between sample sites and some of the preferred recreation settings. However the strength of these relationships were generally quite low. The recreation settings that did not appear to be associated with a specific sample group include rural areas ( $\chi^2$  = 7.297; df = 4, p = 0.121; Cramer's V = 0.097) and urban areas

( $\chi^2$  = 8.756; df = 4, p = 0.067; Cramer's V = 0.106). The other four recreation setting types were associated with the three sample groups to some extent. The strongest relationship occurred between sample groups and the preference for large wilderness areas with limited trails and campsites ( $\chi^2$  = 47.819; df = 4, p = 0.000; Cramer's V = 0.248). This was followed by the strength of the relationships between sample sites and a preference for large undisturbed areas ( $\chi^2$  = 25.316; df = 4, p = 0.000; Cramer's V = 0.180), easily accessed natural areas with some facilities ( $\chi^2$  = 23.813; df = 4, p = 0.000; Cramer's V = 0.175) and finally semi-wilderness areas with limited motorized access ( $\chi^2$  = 14.129; df = 4, p = 0.007; Cramer's V = 0.135). These results can be seen in Table 14.

	West Coast Trail		Kwisit	is Visitor	V	Vinter	Total		
			Ce	entre	H	arbour			
					F	ishing			
Setting	n	%	n	%	n	%	n	%	
Large undisturbed wilderness	111	67.27	82	51.25	25	39.06	218	56.04	
areas									
Large wilderness areas with	146	88.48	104	65.00	35	54.69	285	73.26	
limited trails and campsites									
Semi-wilderness areas with	67	40.61	90	56.25	35	54.69	192	49.36	
limited motorized access									
Easily accessed natural areas	72	43.64	102	63.75	45	70.31	219	56.30	
with some facilities									
Rural areas	37	22.42	42	26.25	16	25.00	95	24.42	
Urban areas	49	29.70	48	30.00	14	21.89	111	28.53	

Table 14. Recreation setting preferences of Vancouver Island respondents.

### 4.3.1.5 Visitor Experience Ratings

Three questions were designed to measure visitor experience ratings. These questions asked participants: i) the degree to which their visit met their expectations; ii) how likely they are to recommend the destination to others; iii) how likely they are to return in the future. Opinions were measured on a five point Likert scale with 1 indicating a low degree of satisfaction and 5 indicating a high level of satisfaction. ANOVA was conducted to learn about any significant differences between the three sample groups. Analysis revealed very few differences between

the visitor experience ratings for the three sample groups. All sample groups provided mean ratings above 4 for each of the three questions that measured experience indicating a high level of satisfaction. The first two questions revealed no significant differences between the three sample groups. However, mean responses from the Kwisitis Visitor Centre group were significantly lower than that of the other two groups for the final question *F* (2, 188.108) = 15.080, *p* < .05. This can be explained by the high proportion of respondents at the Kwisitis Visitor Centre who were visiting from overseas compared to the other two sample groups. This question asked respondents the likelihood of them returning in the future. It is likely that the long distance between the home countries of many respondents and the destination skewed this result. This is supported by the high proportion of overseas visitors who named distance/cost of travel as a reason that might prevent them from returning again in the future. These results are depicted in Table 15.

	We	est Coas	st Trail	Kwisitis Visitor Centre			Winter Harbour Fishing			Total		
Question	n	mean	95% CI	n	mean	95% CI	n	mean	95% CI	n	mean	95% CI
How well did this trip meet your expectations?	156	4.59	<u>+</u> 0.084	157	4.62	<u>+</u> 0.084	62	4.76	<u>+</u> 0.125	375	4.63 <sup>1</sup>	<u>+</u> 0.055
How likely are you to recommend this destination?	156	4.75	<u>+</u> 0.074	158	4.71	<u>+</u> 0.086	61	4.74	<u>+</u> 0.137	375	4.73 <sup>1</sup>	<u>+</u> 0.053
How likely are you to return in the future?	156	4.55	<u>+</u> 0.123	159	4.10	<u>+</u> 0.184	60	4.78	<u>+</u> 0.163	375	4.40 <sup>2</sup>	<u>+</u> 0.100

<sup>1</sup> No significant differences found between groups.

<sup>2</sup> Mean responses from Visitor Centre guests were significantly lower than WCT hikers and Winter Harbour Fishing guests.

### 4.3.1.6 Nature-based Tourism Setting Preferences

In order to understand respondents' nature-based tourism setting preferences, they were asked to rate their level of agreement with twelve statements expressing different views about forestry and tourism. Frequencies of response for each item in the scale can be seen in Table 16. Table 16. Frequencies of response for Vancouver Island nature-based tourism setting preference scale items(bold numbers indicate most frequently recorded response).

Item	n	Strongly Agree %(I)	Agree %(2)	Neither agree / disagree %(3)	Disagree %(4)	Strongly Disagree %(5)	95% Cl	SD	mean
When visiting destinations that market the natural environment I expect to see unspoiled wilderness.	383	43.6	42.3	7.3	5.5	1.3	<u>+</u> 0.090	.896	1.79
Forestry activities in natural areas provide additional access for outdoor recreation.	359	8.9	47.9	19.5	14.8	8.9	<u>+</u> 0.116	1.111	2.67
I expect to see evidence of forestry activities in destinations that market the natural environment.	369	7.3	32.2	22.5	20.3	17.3	<u>+</u> 0.135	1.316	3.06
Special care should be taken to ensure forestry does not impact upon the recreational values	375	44.5	38.9	9.6	4.3	2.7	<u>+</u> 0.098	.959	1.82
or natural areas. When visiting destinations that market the natural environment, evidence of forestry activities negatively affects my experience	372	21	32.3	26.9	13.7	6.2	<u>+</u> 0.118	1.148	2.52
When participating in outdoor recreational activities my main focus is on the activity, rather than the scenic values of the setting.	375	2.1	6.7	16.8	47.2	27.2	<u>+</u> 0.096	.945	3.91
Evidence of forestry activities in regions that market the natural environment has very little impact on my experience.	371	2.7	16.4	22.1	37.7	21	<u>+</u> 0.110	1.076	3.58
When participating in outdoor recreational activities I prefer unspoiled wilderness.	379	36.9	40.1	15	5.5	2.4	<u>+</u> 0.098	.978	1.96
In destinations that market the natural environment forests should be preserved for their tourism values.	372	31.7	38.7	18.8	7.8	3	<u>+</u> 0.106	1.036	2.12
Evidence of forestry activities near recreational areas has very little impact on my experience.	370	4.1	18.9	25.4	30.3	21.4	<u>+</u> 0.116	1.140	3.46
Development of forest resources is necessary, even in destinations that market the natural environment.	364	7.7	33.5	26.1	19	13.7	<u>+</u> 0.122	1.177	2.98
Observing evidence of forestry activities in natural areas while participating in outdoor activities negatively affects my experience.	369	16.3	33.9	25.7	17.9	6.2	<u>+</u> 0.116	1.136	2.64

Principle component analysis with varimax rotation was applied to this scale. Cronbach's alpha revealed that the overall reliability of the questionnaire was very high (Cronbach's  $\alpha$  = .885). Analysis revealed that removal of the sixth item in list would improve the reliability of the scale with its removal. However, the improvement was minimal (Cronbach's  $\alpha$  = .890) so the item was retained for the analysis. The Kaiser-Meyer-Olkin verified the sampling adequacy for this analysis, KMO = .900 and all KMO values for individual items were > .778. Bartlett's test of sphericity  $\chi^2$  (66) = 1551.389, p < .001 indicates that correlations between items were sufficiently high enough for principle component analysis. Analysis was run to obtain eigenvalues for each component. Two of these had eigenvalues above Kaiser's criterion of 1 and in combination explained 55.48% of the variance. Table 17 shows the factor loadings after rotation along with the value of Cronbach's alpha for each of the two factors that were identified. Analysis suggests that component 1 represents a high degree of acceptance for settings with visible forest industry impacts, while 5 represents a low degree of acceptance for these settings.
Table 17. Factor loadings for Vancouver Island responses to nature-based tourism setting preference scale items (bold numbers indicate loadings above 0.4).

Item	I	2
I expect to see forestry activities in destinations that market the environment.	.753	.080
Forestry activities in natural areas provide additional access for outdoor recreation.	.751	.026
Development of forest resources is necessary, even in destinations that market the natural environment.	.700	272
Evidence of forestry activities near recreation areas has very little impact on my experience.	.692	439
Evidence of forestry activities in destinations that market the natural environment has very little impact on my experience.	.617	507
When participating in outdoor recreation activities my main focus is on the activity rather than the scenic values of the setting.	.068	464
When participating in outdoor recreation activities I prefer unspoiled wilderness.	245	.736
In destinations that market the natural environment forests should be preserved for their tourism values.	278	.736
Special care should be taken to ensure that forestry does not impact upon the recreation values of natural areas.	079	.691
When visiting destinations that market the natural environment I expect to see unspoiled wilderness.	201	.657
When visiting destinations that market the natural environment, evidence of forestry activities negatively affects my experience.	562	.538
Observing evidence of forestry activities in natural areas while participating in outdoor activities negatively affects my experience.	672	.438
Eigenvalues	3.44	3.22
% of variance	28.63	26.85
α	.825	.797

Following principle component analysis, scores were calculated for each participant. This was done by reverse coding all negatively worded items and adding the ratings given to produce a score out of 60. This was then divided by 12 to create an index out of 5. The possible scores that respondents could receive ranged between 1 and 5, with 1 representing a high degree of acceptance for settings with visible forest industry impacts and 5 representing a low degree of acceptance for these settings. Comparisons between the three sample groups were then made. Analysis revealed that significant differences exist between Winter Harbour fishing guests and the other two sample groups with Winter Harbour fishing guests being much more accepting of

forest industry impacts when compared to West Coast Trail walkers and Kwisitis Visitor Centre guests, F(2,210.176) = 44.352, p < .05. These results are presented in Table 18.

Sample Group	Ν	Mean	Min.	Max.	Range
West Coast Trail	152	3.72	2.08	5.00	2.92
Kwisitis Visitor Centre	144	3.64	2.33	5.00	2.67
Winter Harbour Fishing	61	2.83	1.42	4.42	3.00
Total	356	3.54 <sup>1</sup>	1.42	5.00	3.58

Table 18. Nature-based tourism setting preference scores for Vancouver Island respondents.

<sup>1</sup>Mean score from Winter Harbour fishing guests was significantly lower than WCT hikers and Kwisitis Visitor Centre guests.

#### 4.3.1.7 Forestry Observations

The questionnaire listed four types of forest industry impacts that visitors could potentially encounter while visiting Vancouver Island. These include harvested areas, tree plantations, logging trucks and saw/pulp mills. Respondents were asked to indicate whether or not they had observed each type of impact during their trip. Out of 389 respondents, 372 completed this question (95.63%).

A chi-square test for association was conducted between sample sites and degree of exposure to forestry impacts, which revealed that statistically significant relationships do exist between sample sites and most impacts. The strength of these relationships was shown to vary depending on the type of forest industry impact. The only type of impact measured that did not appear to be related to a specific sample site was the presence of logging trucks ( $\chi^2 = 3.161$ ; df = 2; p = 0.206; Cramer's V = 0.092). However, the prevalence of the other three impact types were shown to be associated with specific sample sites. The strongest relationship that was observed occurred between tree plantations and sample site ( $\chi^2 = 35.234$ ; df = 2; p = 0.000; Cramer's V = 0.308), with Winter Harbour fishing guests being much more likely to encounter this type of impact than visitors to the other two sample sites. This was followed by harvested areas ( $\chi^2 = 12.946$ ; df = 2; p = 0.000; Cramer's V = 0.227), which saw the likelihood of encountering this type of impact vary significantly between each of the three sample sites. Finally, the likelihood of observing saw/pulp mills was also shown to be associated with certain

sample sites more than others ( $\chi^2$  = 11.591; df = 2; p = 0.003; Cramer's V = 0.177). The differences observed between sample sites can be seen in the Table 19.

	West Tr	Coast ail	Kwisitis Visitor Centre		Winter H Fish	Harbour ing	Total		
Impact Type	n	%	n	%	n	%	n	%	
Harvested areas	126	81.82	110	70.97	61	96.83	297	79.84	
Tree plantations	76	49.35	78	50.32	57	90.48	211	56.72	
Logging trucks	94	61.04	95	61.29	46	73.02	235	63.17	
Saw/pulp mills	50	32.47	66	42.58	36	57.14	152	40.86	

Table 19. Observations of forest industry impacts in Vancouver Island.

# 4.3.1.8 Forestry Perceptions

To understand how forest industry impacts affect post-visit destination image the questionnaire contained a question asking how four different impact types influenced perceptions of Vancouver Island as a tourist destination (i.e. harvested areas, tree plantations, logging trucks, saw/pulp mills). This question was measured on a 5-point Likert scale, with 1 being negative and 5 being positive. Participants were asked to only rate the impact types that they had observed during their visit. Analysis revealed that differences in opinion do exist depending on the type of forest industry impact observed. Out of the four impact types listed harvested areas received the lowest ratings with more than half of respondents (54.1%) indicating that observing these had a negative impact upon their perception of Vancouver Island as a tourist destination (rating of 1 or 2). This was followed by saw/pulp mills (37.4%) and logging trucks (36.7%). However, it appears that visitors were quite accepting of tree plantations with only 11.5% of respondents rating this type of impact in the negative range of the scale (see Table 20).

Item	n	%(I)	%(2)	%(3)	%(4)	%(5)	95%	SD	mean
		Negative				Positive	CI		
Harvested areas	294	21.8	32.3	37.1	5.4	3.1	<u>+</u> 0.127	1.121	2.32
Tree plantations	208	4.3	7.2	38.5	31.3	18.3	<u>+</u> 0.169	1.247	3.47
Logging trucks	229	15.7	21.0	54.6	6.1	2.2	<u>+</u> 0.143	1.102	2.54
Saw/Pulp Mills	150	12.7	24.7	52.7	4.0	5.3	<u>+</u> 0.196	1.228	2.58

Table 20. Vancouver Island forestry impact ratings (bold numbers indicate most frequently recorded response).

Along with the differences found between types of forest industry impacts, a significant difference was also observed when comparing the ratings given by the three sample groups. Winter Harbour fishing guests gave harvested areas a better rating than Kwisitis Visitor Centre guests and West Coast Trail walkers, F(2,117.110) = 4.278, p < .05. However, when comparing the other three types of forestry impacts that were included in the questionnaire no significant differences were observed between sample sites (see Table 21).

Table 21. Vancouver Island forestry ratings according to sample group.	
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	West Coast Trail			Kwisitis Visitor			Winter Harbour			Total		
				Centre			Fishing					
Type of	n	mean	<b>95</b> %	n	mean	<b>95</b> %	n	mean	<b>95</b> %	n	mean	<b>95</b> %
Impact			CI			CI			CI			CI
Harvested areas	125	2.20	<u>+</u> 0.151	109	2.23	<u>+</u> 0.176	60	2.75	<u>+</u> 0.423	294	2.32 <sup>1</sup>	<u>+</u> 0.127
Tree Plantations	75	3.67	<u>+</u> 0.196	77	3.30	<u>+</u> 0.233	56	3.45	<u>+</u> 0.445	208	3.47 <sup>2</sup>	<u>+</u> 0.161
Logging Trucks	92	2.54	<u>+</u> 0.171	91	2.48	<u>+</u> 0.186	46	2.63	<u>+</u> 0.447	229	2.54 <sup>2</sup>	<u>+</u> 0.137
Saw/pulp mills	50	2.38	<u>+</u> 0.221	65	2.57	<u>+</u> 0.214	35	2.89	<u>+</u> 0.576	150	2.58 <sup>2</sup>	<u>+</u> 0.180

<sup>1</sup>Mean responses for the Winter Harbour Fishing guests were significantly higher than the mean responses for WCT hikers and Visitor Centre guests

Visitor Centre guests. <sup>2</sup>No significant differences found between groups.

## 4.3.1.9 Forest Management Preferences

To gain insight into the management preferences of visitors to Vancouver Island the questionnaire contained a question listing five possible management options for Vancouver Island forests. Respondents were asked to rate their agreement with each option, with 1 indicating a high level of agreement and 5 indicating a low level of agreement. When presented with the option of making no changes to forest management practices, 59.2% of respondents indicated that they either disagree or strongly disagree with this statement. Out of the forest

management options presented to visitors, the limiting of harvesting near recreation areas to preserve scenic views received the most support, with 83.6% of respondents indicating that they either agree or strongly agree with this option. This was followed by the restriction of harvesting near transportation routes to preserve scenic views (71.1%). Despite the strong support for the restriction of timber harvesting in certain areas, only 15.8% of respondents indicated that they believe timber harvesting should be banned throughout Vancouver Island (Table 22).

Table 22. Forest management preferences of Vancouver Island respondents (bold numbers indicate most frequently recorded response).

Management Option	n	Strongly Agree %(I)	Agree %(2)	Neither agree / disagree %(3)	Disagree %(4)	Strongly Disagree %(5)	95% CI	SD	mean
Make no changes	287	2.8	17.8	20.2	35.9	23.3	<u>+</u> 0.129	1.111	3.59
Limit near roadways	332	21.4	49.7	16.3	10.8	1.8	<u>+</u> 0.104	.963	2.22
Limit near recreation areas	342	32.7	50.9	11.1	4.7	.6	<u>+</u> 0.086	.818	1.89
Heavily restrict throughout	328	17.7	23.5	23.5	24.4	11.0	<u>+</u> 0.137	1.271	2.88
Ban throughout all areas	315	7.9	7.9	16.8	39.0	28.3	<u>+</u> 0.131	1.186	4.27

The average acceptability rating for the various management options that were presented differed between sample groups. Winter Harbour fishing guests were much less likely than the other two sample groups to express a high level of agreement with the final three options presented. These options include the limiting of harvesting near recreation areas F(2,197.072) = 9.516, p < .05, heavy restrictions on harvesting throughout F(2,251.423) = 29.429, p < .05 and a ban on harvesting throughout F(2,288.5) = 11.533, p < .05. The options that they were less likely to agree with happened to be the ones that would inherently put more restrictions on the forestry industry than the other two options presented in the questionnaire (see Table 23).

	We	est Coas	st Trail	Kwisitis Visitor Centre			Winter Harbour Fishing			Total		
Management Option	n	mean	95% CI	n	mean	95% CI	n	mean	95% Cl	n	mean	95% CI
Make no changes	118	3.81	<u>+</u> 0.188	114	3.51	<u>+</u> 0.216	55	3.31	<u>+</u> 0.282	287	3.59 <sup>1</sup>	<u>+</u> 0.129
Limit near roadways	132	2.30	<u>+</u> 0.171	140	2.06	<u>+</u> 0.149	60	2.43	<u>+</u> 0.249	332	2.22 <sup>2</sup>	<u>+</u> 0.104
Limit near recreation areas	138	1.83	<u>+</u> 0.135	144	1.78	<u>+</u> 0.120	60	2.32	<u>+</u> 0.231	342	1.89 <sup>3</sup>	<u>+</u> 0.086
Heavily restrict throughout	133	2.77	<u>+</u> 0.206	136	2.53	<u>+</u> 0.194	59	3.90	<u>+</u> 0.286	328	2.88 <sup>3</sup>	<u>+</u> 0.137
Ban throughout all areas	128	3.65	<u>+</u> 0.212	128	3.51	<u>+</u> 0.202	59	4.32	<u>+</u> 0.239	315	3.72 <sup>3</sup>	<u>+</u> 0.131

Table 23. Forest management preferences for Vancouver Island respondents according to sample group.

<sup>1</sup>Mean responses from WCT hikers were significantly higher than mean responses from Winter Harbour Fishing guests. <sup>2</sup>Mean responses from Winter Harbour Fishing guests were significantly higher than mean responses from Visitor Centre guests.

<sup>3</sup>Mean responses from Winter Harbour Fishing guests were significantly higher than Visitor Centre guests and WCT hiker.

## 4.3.1.10 Environmental Values

Because of its widely accepted use the NEP scale was adopted for the questionnaire to measure environmental values (Dunlap, et al., 2000; Dunlap, 2008). Participants were asked to indicate their level of agreement with 15 statements about relationships between humans and the environment. Frequencies of response for each item in the scale are shown in Table 24.

Table 24. Frequencies of response for NEP scale items in Vancouver Island (bold numbers indicate most frequently recorded response).

Item	n	Strongly Agree %(1)	Agree %(2)	Neither agree / disagree %(3)	Disagree %(4)	Strongly Disagree %(5)	95% CI	SD	mean
We are approaching the limit of the number of people the earth can support.	363	37.5	27.3	18.2	12.1	5	<u>+</u> 0.123	1.205	2.20
Humans have the right to modify the natural environment to suit their needs.	364	5.8	33	11.3	28.6	21.4	<u>+</u> 0.131	1.279	3.27
When humans interfere with nature it often produces disastrous consequences.	365	35.3	37.5	9.3	13.7	4.1	<u>+</u> 0.120	1.162	2.14
Human ingenuity will ensure that we do not make the earth unlivable.	357	7.6	16	30.3	24.9	21.3	<u>+</u> 0.123	1.198	3.36
Humans are severely abusing the environment.	358	45.3	34.4	6.7	8.9	4.7	<u>+</u> 0.118	1.142	1.94
The earth has plenty of natural resources if we just learn how to develop them.	363	17.6	36.1	19.6	18.2	8.5	<u>+</u> 0.123	1.210	2.64
Plants and animals have as much right to exist as humans.	364	59.1	23.9	6.6	7.4	3	<u>+</u> 0.110	1.071	1.71
The balance of nature is strong enough to cope with the impacts of modern industrial nations.	361	2.5	11.6	14.4	31.6	39.9	<u>+</u> 0.114	1.111	3.95
Despite our special abilities humans are still subject to the laws of nature.	361	57.9	31.3	7.2	1.9	1.7	<u>+</u> 0.086	.840	1.58
The so-called 'ecological crisis' facing humankind has been greatly exaggerated.	359	4.5	11.1	16.7	22.6	45.1	<u>+</u> 0.125	1.210	3.93
The earth is a closed system with very little room and resources.	364	28	31.6	19.2	14.8	6.3	<u>+</u> 0.125	1.217	2.40
Humans were meant to rule over the rest of nature.	362	5	11.6	10.8	18.8	53.9	<u>+</u> 0.129	1.249	4.05
The balance of nature is very delicate and easily upset.	360	38.3	37.5	11.7	11.1	1.4	<u>+</u> 0.108	1.036	2.00
Humans will eventually learn enough about how nature works to be able to control it.	361	3.9	13.9	23.8	29.6	28.8	<u>+</u> 0.118	1.147	3.66
If things continue on their present course, we will soon experience a major ecological catastrophe.	364	33.5	32.4	19.2	9.9	4.9	<u>+</u> 0.118	1.153	2.20

In the initial analysis Cronbach's alpha revealed that the overall reliability of this scale was quite high (Cronbach's  $\alpha$  = .776). Reliability analysis revealed that removal of the second item from the list would improve the reliability of the scale with its omission (Cronbach's  $\alpha$  = .827). However, this was retained for the analysis. The Kaiser-Meyer-Olkin verified the sampling adequacy for this analysis, KMO = .871 and all KMO values for individual items were > .811, which is well above the acceptable limit of .5 (Field, 2009). Bartlett's test of sphericity  $\chi^2$  (105) = 1230.156, p < .001 suggests that correlations between items were sufficient for principle component analysis. Analysis was run to obtain eigenvalues for each component. Four of these had eigenvalues above Kaiser's criterion of 1 and in combination explained 54.73% of the variance. Table 25 depicts the factor loadings after rotation along with the value of Cronbach's alpha for each factor that was identified.

Statement	I	2	3	4
The earth is a closed system with limited room and resources.	.735	161	025	032
The balance of nature is very delicate and easily upset.	.614	.142	195	.384
If things continue on the present course we will soon experience a major	.607	237	354	.160
ecological catastrophe.				
We are approaching the limit of the number of people the earth can	.606	298	130	.065
support.				
Humans will eventually learn enough about how nature works to control	.155	.780	.184	196
it.				
Human ingenuity will ensure we do not make the earth unlivable.	283	.642	.128	.069
The earth has plenty of natural resource if we just learn how to develop	240	.550	188	146
them.				
The balance of nature is strong enough to cope with the impacts of	314	.528	.292	177
modern industrial nations.				
The so-called ecological crisis facing humankind has been greatly	387	.503	.459	132
exaggerated.				
Plants and animals have as much right as humans to exist.	.198	.014	737	.213
Humans were meant to rule over the rest of nature.	016	.297	.686	219
Humans have the right to modify the natural environment to suit their	146	.033	.658	.081
needs.				
Despite our special abilities, humans are still subject to the laws of	055	112	023	.779
nature.				
When humans interfere with nature it often produces disasterous	.241	136	127	.593
consequences.				
Humans are severely abusing the environment.	.414	154	300	.441
Eigenvalues	2.36	2.19	2.12	1.55
% of variance	15.70	14.61	14.12	10.30
α	.695	.718	.625	.589

Table 25. Factor loading for new ecological paradigm scale items for Vancouver Island respondents (bold numbers indicate loadings above 0.4).

Following principle component analysis of the NEP scale, scores were calculated for each participant. The possible scores that respondents could receive ranged between 1 and 5, with 1 representing an anthropocentric worldview and 5 representing an environmentalist worldview. Comparisons between the three sample groups were then made. Analysis revealed that significant differences exist between Winter Harbour fishing guests and the other two sample groups with Winter Harbour fishing guests exhibiting a worldview that is much more anthropocentric when compared to the other two sample groups *F*(2,151.042) = 18.669, *p* < .05. Results are depicted in Table 26.

Sample Group	N	Mean	Min.	Max.	Range
West Coast Trail	150	3.81	1.27	5.00	3.73
Kwisitis Visitor Centre	143	3.90	2.33	4.87	2.54
Winter Harbour Fishing	60	3.24	1.67	4.47	2.80
Total	353	3.75 <sup>1</sup>	1.27	5.00	3.73

Table 26. New ecological paradigm scores for Vancouver Island respondents.

<sup>1</sup> Mean score from Winter Harbour fishing guests was significantly lower than WCT hikers and Kwisitis Visitor Centre guests.

### 4.3.2 Linear Regression Models for Forest Industry Impacts and Tourism Image

The questionnaire asked respondents about four types of forest industry impact and the degree to which each one impacted upon their perception of Vancouver Island as a tourist destination. Therefore, a total of four regression models are presented. One for each type of forest industry impact that was included in the questionnaire (harvested areas, tree plantations, logging trucks, saw/pulp mills). The main purpose of the regression analysis was to understand some of the respondent characteristics that influenced the ratings given to four forestry impacts included in the survey. The regression analysis considered a number of independent variables including age, gender, years of education, affiliation with conservation organizations, nature-based tourist setting preference score, new ecological paradigm score, residency (BC, rest of Canada, USA, International) and four destination image scores (urban attractions, touring, hiking, flora/fauna). These independent variables were chosen for various reasons. Demographic characteristics (age, gender, education) were selected because they have been shown to correspond with certain environmental values (Dunlap, 2008), recreation setting preferences (Hunt et. al. 2000) and destination image (Beerli & Martin, 2004a; Beerli & Martin 2004b). To see whether or not

these three constructs influence tourist perceptions of forest practices results from the naturebased tourism setting preference scale, new ecological paradigm scale and destination image scale were also included in the regression analysis.

In regression analysis it is important that independent variables do not correlate too highly (Field, 2009). This is known as multicollinearity and it occurs when a strong relationship exists between two or more independent variables that are to be used in a regression model. To test for multicollinearity and identify highly correlated variables Pearson correlations were calculated. Items with values above 0.7 were considered as too highly correlated for inclusion. However, none of the Pearson correlation values exceeded this limit.

## 4.3.2.1 Harvested Areas

The independent variables that appear to be significant predictors of the ratings given to harvested areas include nature-based tourism setting preference score, residency within the United States and Canadian residency outside of British Columbia. In combination these three variables accounted for 13.6% of the variation in ratings given to harvested areas (see Table 27). It is important to note the low Durbin-Watson value. Values less than 1 or greater than 3 are often a cause for concern. This could indicate a correlation between residuals, which is a violation in the independence of errors assumption required for linear regression. However, conclusions can still be drawn about the data if assumptions are violated. It just makes it more difficult to generalize these findings beyond the sample (Field, 2009).

R	2	Adjusted R <sup>2</sup>	Durbin-Watson
.18	2	.136	.586

## Table 27. R<sup>2</sup> and Durbin-Watson values for harvested areas in Vancouver Island.

Despite violating the independence of errors assumption, the degree to which these variables affected the ratings of harvested areas was calculated and shown to differ. One of these variables exhibited a negative relationship, while a positive relationship was shown to exist between the other two variables. Based on the analysis it appears that ratings of harvested areas increase as nature-based tourism setting preference score's decrease. Also, Canadian residents from provinces outside of British Columbia were shown to give higher ratings to

harvested areas when compared to British Columbia residents. This was also the case for residents of the United States (Table 28).

Variable	В	S.E.	Beta	t	Sig.
Constant	3.970	.861		4.608	.000
Nature-based Tourism Setting Preference Score	175	.074	166	-2.374	.018
Destination Image (Urban Attractions)	142	.105	096	-1.355	.177
Destination Image (Touring)	.022	.119	.014	.181	.856
Destination Image (Hiking)	027	.151	014	182	.856
Destination Image (Flora & Fauna)	162	.087	133	-1.865	.063
Region (Canada)	.398	.171	.170	2.328	.021
Region (USA)	.547	.215	.213	2.546	.012
Region (International)	.442	.230	.138	1.925	.055
Age	.005	.005	.064	.874	.383
Gender	.011	.152	.005	.074	.941
Years of Education	001	.040	001	017	.986
Conservation Organization	277	.208	068	-1.096	.274
New Ecological Paradigm	118	.077	105	-1.527	.128

 Table 28. Predictors of harvested area ratings from Vancouver Island respondents.

# 4.3.2.2 Tree Plantations

It appears that the only independent variable that is a significant predictor of ratings given to tree plantations is the urban attraction destination image score. This variable was shown to account for only 2.6% of the variation in ratings given to plantations (see Table 29).

R <sup>2</sup>	Adjusted R <sup>2</sup>	Durbin-Watson
.101	.026	1.456

The degree to which destination image score for urban attractions affected the ratings given to tree plantations was calculated. This variable exhibited a negative relationship with the ratings

given to tree plantations. This suggests that acceptance rating for this impact type increases as urban attractions score decreases. The significance in relationships between the dependent and independent variables is depicted in the Table 30.

Variable	В	S.E.	Beta	t	Sig.
Constant	5.268	1.237		4.260	.000
Nature-based Tourism Setting Preference Score	.074	.118	.060	.632	.528
Destination Image (Urban Attractions)	419	.157	244	-2.671	.008
Destination Image (Touring)	.135	.171	.084	.788	.432
Destination Image (Hiking)	080	.220	039	362	.718
Destination Image (Flora & Fauna)	.080	.130	.059	.615	.539
Region (Canada)	.224	.284	.072	.788	.432
Region (USA)	064	.299	023	216	.830
Region (International)	473	.327	136	-1.445	.151
Age	.005	.008	.054	.606	.546
Gender	219	.230	082	952	.343
Years of Education	076	.064	102	-1.181	.239
Conservation Organization	586	.313	152	-1.873	.063
New Ecological Paradigm	013	.109	011	117	.907

## Table 30. Predictors of tree plantation ratings from Vancouver Island respondents.

# 4.3.2.3 Logging Trucks

None of the independent variables were shown to be significant predictors of the ratings given to logging trucks (see Table 32).  $R^2$  and adjusted  $R^2$  can be seen in the Table 31.

Table 31. R <sup>2</sup> and Durbin-Watson values for	r logging trucks in Vancouver Island.
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R <sup>2</sup>	Adjusted R <sup>2</sup>	Durbin-Watson
.117	.053	1.371

Variable	В	S.E.	Beta	t	Sig.
Constant	3.996	.989		4.042	.000
Nature-based Tourism Setting Preference Score	114	.090	106	-1.261	.209
Destination Image (Urban Attractions)	195	.122	134	-1.603	.111
Destination Image (Touring)	010	.142	007	071	.944
Destination Image (Hiking)	.179	.176	.094	1.019	.310
Destination Image (Flora & Fauna)	011	.108	009	102	.919
Region (Canada)	038	.202	016	190	.850
Region (USA)	.385	.267	.147	1.441	.151
Region (International)	.287	.249	.100	1.151	.251
Age	008	.006	118	-1.346	.180
Gender	341	.175	152	-1.950	.053
Years of Education	030	.049	050	627	.531
Conservation Organization	487	.250	147	-1.952	.052
New Ecological Paradigm	082	.082	081	999	.319

 Table 32. Predictors of logging trucks from Vancouver Island respondents.

## 4.3.2.4 Saw/Pulp Mills

The destination image score for urban attractions was the only independent variable that was shown to be a significant predictor of the ratings given to saw/pulp mills. It was able to explain 9.3% of the variation in ratings given to this forest industry impact type (see Table 33).

 Table 33. R2 and Durbin-Watson values for saw/pulp mills in Vancouver Island.

R <sup>2</sup>	Adjusted R <sup>2</sup>	Durbin-Watson
.188	.093	1.287

The degree to which the destination image score for urban attractions affected saw/pulp mill ratings was calculated. These two variables were shown to have a negative relationship Therefore, acceptance ratings for this impact type are likely to increase as urban attraction

score decreases. The significance in relationships between the dependent and independent variables is depicted in Table 34.

Variable	В	S.E.	Beta	t	Sig.
Constant	4.297	1.421		3.024	.003
Nature-based Tourism Setting Preference Score	225	.129	188	-1.736	.085
Destination Image (Urban Attractions)	409	.184	234	-2.220	.028
Destination Image (Touring)	.064	.198	.040	.325	.746
Destination Image (Hiking)	072	.258	034	278	.781
Destination Image (Flora & Fauna)	.117	.157	.085	.747	.457
Region (Canada)	093	.279	034	334	.739
Region (USA)	.538	.352	.194	1.527	.130
Region (International)	299	.400	074	748	.456
Age	.000	.009	001	011	.991
Gender	196	.243	078	806	.422
Years of Education	.019	.072	.026	.268	.789
Conservation Organization	331	.313	098	-1.060	.292
New Ecological Paradigm	115	.152	081	759	.449

Table 34. Predictors of saw/pulp mill ratings from Vancouver Island respondents.

# 4.4 Summary of Results

Based on the results from the Vancouver Island data analysis a number of interesting observations were made. The six highest ranked destination image items for the first question in the questionnaire include natural scenery, parks & protected areas, hiking, unique/rare animals, camping and unique/rare plants. Therefore, it appears that a high proportion of respondents considered certain outdoor activities and aspects associated with the natural environment as important in shaping Vancouver Island's tourism image. Although there were some differences found in destination image item rankings between the three sample groups, each group identified a number of items associated with outdoor activities and the natural environment as being important. This suggests that these types of items play an important role in shaping the destination image of Vancouver Island.

The scale assessing nature-based tourism setting preferences revealed that some differences exist between the three sample groups. Both the West Coast Trail and Kwisitis Visitor Centre sample groups received a rating above the mid-point of the scale, which is 3. However, no statistically significant differences were found between these two sample groups. Despite this finding, the scores from the Winter Harbour fishing group were shown to be significantly lower than the other two sample groups. This suggests that participants from the Winter Harbour fishing group are much more accepting of forest industry impacts, when compared to participants from the other two sample groups.

Analysis also revealed that the likelihood of visitor's encountering forest industry impacts in Vancouver Island was very high. This was especially true for harvested areas, with nearly 80% of visitors encountering this type of impact. However, the likelihood of encountering forest industry impacts was shown to differ between the three sample groups. Based upon the analysis, it appears that Winter Harbour Fishing guests were more likely to encounter most forestry impact types when compared to the other two sample groups. However, differences were also found between the West Coast Trail walkers and Kwisitis Visitor Centre groups. For example, West Coast Trail walkers were much more likely to encounter harvested areas than guests to the Kwisitis Visitor Centre. This is likely due to the prevalence of harvested areas along the roadsides when travelling from Nanaimo to the West Coast Trail. Results appear to suggest that the chance of encountering forest industry impacts is partly dependent on the areas of Vancouver Island that are visited.

When asking participants about the degree to which forest industry impacts affected their perception of Vancouver Island as a tourist destination, some interesting differences were found. Analysis of the data suggests that the degree to which forestry impacts upon tourist perceptions is partly dependent upon the type of impact observed. For example, over half of respondents indicated that harvested areas negatively affect their perception of Vancouver Island as a tourist destination. However, less than 15% indicated that tree plantations had a negative effect on their perceptions. Despite the differences found between the impact types, fewer differences were found when comparing the three sample groups. The only impact type that was rated differently by the three sample groups was harvested areas, with mean ratings from Winter Harbour fishing guests being significantly higher than the other two sample groups.

However, no significant differences were found when comparing ratings of the other three forest industry impact types.

Analysis of the forest management preference question revealed that nearly 60% of respondents would like to see some changes made to forest management practices in Vancouver Island. The forest management option that received the most support was the restriction of harvesting near recreation areas to preserve scenic views. This was followed by the restriction of harvesting along transportation corridors. Despite the support for harvesting restrictions in certain areas, very few respondents indicated that they support a ban on harvesting throughout Vancouver Island. Analysis also revealed that forest management preferences were partly dependent upon sample group, with a number of significant differences being found between them.

Linear regression analysis was conducted to help understand the degree to which certain variables were able to predict ratings given to the four forest industry impact types included in the questionnaire. The degree to which these variables were able to predict ratings was shown to differ according to the type of impact. However, none of the regression models were shown to have much predictive power. Variables that were able to help predict ratings given to harvested areas include nature-based tourism setting preference score, residency within the United States and Canadian residency outside of British Columbia. The only variable that was able to help predict ratings given to tree plantations was the urban attractions destination image score. There were no independent variables were able to help predict the ratings given to logging trucks. Finally, urban attractions destination image score was the only independent variable shown to help predict the ratings that were given to saw/pulp mills.

# 4.5 Conclusion

The highest ranked items in the destination image scale related to the natural environment and outdoor activities. This suggests that natural landscapes and associated activities were important for shaping the destination image for research participants. The nature-based tourism setting preference scale revealed that certain visitors to Vancouver Island prefer landscapes that have not been impacted by forestry. This was supported by responses to the question

asking about the degree to which forest industry impacts affected perceptions. Overall, harvested areas were rated on the low end of the scale. This is likely because they tend to be quite visible within the landscape. However, visitors were much more accepting of tree plantations, which usually blend into the landscape much better. Questionnaire responses also suggest that changes to forest management practices could improve perceptions of visitors to Vancouver Island, as nearly 60% of respondents indicated that they either disagree or strongly disagree with the statement suggesting 'no forest management changes are need on Vancouver Island.' Management options that received the most support include harvest restrictions near recreational areas, as well as restrictions along transportation routes.

Certain differences were found to exist between the sample groups. For the question measuring destination image the Winter Harbour fishing group ranked fishing as most important. However, fishing was ranked much lower for the other two sample groups. Despite this difference, the Winter Harbour group ranked items associated with natural landscapes very high, which was similar to the other two sample groups. This suggests that natural landscapes are important for shaping the destination image of all three sample groups. Results from the nature-based tourism setting preference scale suggest that Winter Harbour fishing group was much more accepting of forest industry impacts than the other two sample groups. This was supported by responses to the question asking about the degree to which forestry impacts affected perceptions of Vancouver Island. Analysis revealed that this Winter Harbour fishing guests were much less likely to have their perceptions affected by harvested area than the other two sample groups. This group was also less likely than the other two sample groups to support management options that placed restrictions upon timber harvesting for tourism purposes. Based upon the survey results it appears that Winter Harbour fishing guests are much more accepting of forestry and less likely to have their perceptions affected by forest industry impacts than the other two sample groups.

# Chapter 5 Tasmania Results

# **5.1 Introduction**

This chapter presents the results from the questionnaire that was distributed to tourists in Tasmania. It is important to note possible limitations of these results because of issues that relate to non-response bias. The survey instrument was only printed in English. Therefore, individuals who did not speak the language could not participate. It is conceivable that a survey targeting another language group may have produced different results. Additionally, certain individuals who were approached agreed to participate, whereas others chose not to. It is possible that certain differences between those who declined and those that accepted could have influenced results. Finally, certain characteristics associated with the Central Highlands fishing group influenced certain aspects of results. Because of the low sample size from this group it is difficult to draw any solid conclusions from the findings. Due to logistical challenges, the survey was not administered by the researcher. Therefore, it is possible that this could have also influenced results. The chapter will begin with a short discussion which explains the methods used for analysis. This is followed by a section providing an overview of the methods used to summarize the sample characteristics. Finally, sample characteristics and results are discussed.

# 5.2 Methods of Analysis

Methods used to analyze the questionnaires collected in Tasmania were similar to those used for Vancouver Island. An alpha level of 0.05 was used for all statistical tests. SPSS version 20.0 was used to conduct all calculations and analyses. Chi-square along with Phi and Cramer's V post hoc tests were used to uncover any relationships present between categorical variables including demographic characteristics, recreation opportunity spectrum and observations of forestry impacts. Principle component analysis was used for questions measuring destination image and tourist motivation. The purpose of this was to reveal any underlying dimensions that may exist between the variables used to measure these constructs. Principle component analysis was also used to test the reliability of the scales measuring environmental values and nature-based tourism setting preferences. After reliability was tested for these scales (environmental values and nature-based tourism setting preferences) a score out of five was created for each construct. Comparisons were then made between groups using ANOVA and post hoc tests (Games-Howell & Scheffe). Comparisons between groups were also made using ANOVA for questions measuring visitor experience, management preferences and forestry industry impact ratings. Regression analysis was used to discover possible variables that could help predict ratings given to each of the four forest industry impacts measured.

# 5.3 Results

Results for the three sample groups are presented below.

# 5.3.1 Sample Characteristics

The response rate for Overland track walkers was just above 85%. Response rate for Cradle Mountain Visitor Centre guests was just above 30%. Response rates for Central Highlands fishing guests was just below 15% (see Table 31).

Table 35. Tasmania response rates.

Site	Respondents	Refusals	Sample Size	Response Rate
Overland Track	157	27	184	85.33%
Cradle Mountain Visitor Centre	154	344	498	30.92%
Central Highlands Fishing	14	80	96	14.58%
Total	325	451	778	41.77%

Response rates for Central Highlands fishing guests were much lower than the other two sample sites. This can be attributed to the difficulty associated with accessing these quests, as well as the data collection method required for this particular site. Because individuals from this sample group were separated by a significant distance, lodge owners presented guests with a questionnaire package that contained a copy of the questionnaire and information sheet. Unfortunately this did not generate the desired rate of response. Response rates for the Cradle Mountain Visitor Centre were also quite low. However, this was offset by the large volume of visitors available at this particular site. Highest response rates came from Overland Track walkers. This can be partly attributed to amount of extra time that this group had available to them while waiting for transport. There are certain issues associated with low sample sizes that should be noted. Although conclusions can be drawn about the individuals who have been surveyed, lower sample sizes make it difficult to generalize results beyond the population that has been sampled (Dillman, Smyth & Christian, 2009). Because of the low number of surveys collected from Central Highlands fishermen it is difficult to make inferences about the larger trout fishing tourist population that frequents Tasmania. Therefore, these results should be treated with caution.

# 5.3.1.1 Demographic Characteristics

Country of origin statistics were calculated for all sample groups with 314 out of 325 respondents (96.1%) reporting this. A majority of participants were residents of Australia. Apart from Australia the top seven countries where respondents were visiting from include the Germany, UK, Canada, France, Netherlands, New Zealand and USA. However, it is important to note that country of origin statistics varied between the sample sites. Distribution of respondent country of origin varied depending on the sample site (Table 36).

	Overland Track		Cradle Mountain Central Highlands Visitor Centre Fishing		Т	otal		
Country	n	%	n	%	n	%	n	%
Australia	113	75.33	103	68.67	13	92.86	229	72.92
Germany	11	7.33	9	6.00	0	0.00	20	6.37
UK	3	2.00	9	6.00	1	7.14	13	4.14
Canada	3	2.00	8	5.33	0	0.00	11	3.50
France	5	3.33	5	3.33	0	0.00	10	3.18
Netherlands	1	0.67	4	2.67	0	0.00	5	1.59
New Zealand	5	3.33	0	0.00	0	0.00	5	1.59
USA	5	3.33	0	0.00	0	0.00	5	1.59
Other	4	2.67	12	8.00	0	0.00	16	5.10
Total	150	99.99	150	100.00	14	100.00	314	99.98

Table 36. Tasmania respondent's country of origin.

Gender information was calculated for all sample groups with 316 out of 325 respondents (97.23%) reporting this information. A relatively even proportion of males and females completed the questionnaire. However, the gender distribution varied according to sample site. This information is depicted in Table 37.

Table 37. Gender distribution for Tasmania respondents.

	Overland Track		Cradle Mountain Visitor Centre		Central Highlands Fishing		То	tal
Gender	n	%	n	%	n	%	n	%
Male	84	54.90	59	39.60	11	78.57	154	48.73
Female	69	45.10	90	60.40	3	21.43	162	51.27
Total	153	100.00	149	100.00	14	100.00	316	100.00

Age information was calculated for all sample groups. Out of the 325 respondents, 293 (90.15%) reported this information. Age of respondents ranged from 19 years old through to the

age of 80. The average age was 42 years, however this varied between the three sample groups. Age distribution for each sample site is contained in Table 38.

Sample Group	Ν	Mean	Min.	Max.	Range	95% CI	SD
Overland Track	144	38.99	19	70	51	<u>+</u> 2.14	13.12
Cradle Mountain Visitor Centre	137	43.85	20	77	57	<u>+</u> 2.66	15.90
Central Highlands Fishing	12	60.83	23	80	57	<u>+</u> 20.5	16.51
Total	293	42.15	19	80	61	<u>+</u> 1.75	15.26

 Table 38. Age distribution for Tasmania respondents.

Statistics for education levels were calculated for all sample groups. Of the 325 respondents, 312 (96.00%) reported this information. A chi-square test for association was conducted between sample sites and education levels. This revealed that a small relationship does exist between these two variables ( $\chi^2$  = 19.804; df = 10, p = 0.031; Cramer's V = 0.178). Education levels for the three sample groups are depicted in Table 39.

	Ov T	erland 'rack	Cradle Mountain Visitor Centre		Centr	al Highlands Fishing	Total	
Education	n	%	n	%	n	%	n	%
Some High School	2	1.33	7	4.72	0	0.00	9	2.88
High School	8	5.33	14	9.45	2	14.29	24	7.69
Some University or College	15	10.00	21	14.19	5	35.71	41	13.14
University or College Degree	67	44.67	58	39.19	3	21.43	128	41.03
Graduate Degree	55	36.67	40	27.03	3	21.43	98	31.41
Other	3	2.00	8	5.40	1	7.14	12	3.85
Total	150	100.00	148	99.98	14	100.00	312	100.00

Table 39.	Education	levels for	Tasmania	respondents.
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Household income data was collected and calculated for all groups sampled. From 325 total respondents, 305 (93.85%) reported this information. A chi-squared test for association revealed that a small relationship does exist between these two variables ( $\chi^2$  = 38.053; df = 22, p = 0.018; Cramer's V = 0.250). Household income statistics for the three sample groups is depicted in Table 40.

	Ove Tra	rland ack	Cra Mour Visitor	dle ntain Centre	Central Highlands Fishing		Total	
Income	n	%	n	%	n	%	n	%
<\$10 000	10	6.76	12	8.39	0	0.00	22	7.21
\$10 000 - \$19 999	7	4.73	10	6.99	0	0.00	17	5.57
\$20 000 - \$29 999	4	2.70	5	3.50	0	0.00	9	2.95
\$30 000 - \$39 999	8	5.41	7	4.90	0	0.00	15	4.92
\$40 000 - \$49 999	4	2.70	14	9.79	0	0.00	18	5.90
\$50 000 - \$59 999	8	5.41	9	6.29	1	7.14	18	5.90
\$60 000 - \$69 999	13	8.78	7	4.90	1	7.14	21	6.89
\$70 000 - \$79 999	12	8.11	12	8.39	0	0.00	24	7.87
\$80 000 - \$89 999	20	13.51	10	6.99	0	0.00	30	9.83
\$90 000 - \$99 999	8	5.41	3	2.10	2	14.29	13	4.26
\$100 000 - \$149 999	18	12.16	31	21.68	7	50.00	56	18.36
>\$149 999	36	24.32	23	16.08	3	21.43	62	20.33
Total	148	100.00	143	100.00	14	100.00	305	99.99

Table 40. Income levels for Tasmania respondents.

Respondents were asked to indicate whether or not they had worked or volunteered for a conservation organization in the past. A chi-square test for association was conducted to see if there was any association between sample group and conservation work/volunteer experience This analysis revealed that there is no relationship between sample site and this variable ( $\chi^2$  = .198; df = 2, p = 0.906; Cramer's V = 0.025). Number of participants who have either volunteered or been employed by a conservation organization are shown in Table 41.

Table 41. Tasmania respondent's affiliation with conservation organizations.

Over Tra	rland ack	Cra Mour Visitor	dle ntain Centre	Central Highlands Fishing		Total	
n	%	n	%	n	%	n	%
24	15.28	21	13.64	2	14.28	47	14.46

# 5.3.1.2 Destination Image

The destination image scale was composed of twenty items. Respondents were asked to rate the degree to which item influenced their opinions about Tasmania as a tourist destination. The frequencies of response for each item can be seen in Table 42.

Table 42. Frequencies for response of Tasmania destination image items (bold numbers indicate mos
frequently recorded response).

ltem	n	Not	%(2)	%(3)	%(4)	Very	<b>95</b> %	SD	mean
		Important				Important	CI		
		%(I)				%(5)			
Parks & protected areas	325	0.0	0.0	4.0	17.2	78.8	<u>+</u> 0.057	.519	4.75
Local wine, beer, etc.	323	20.7	18.6	26.3	23.5	10.8	<u>+</u> 0.141	1.291	2.85
Unique/rare animals	324	0.3	2.2	12.0	30.2	55.2	<u>+</u> 0.088	.803	4.38
Nightlife/Entertainment	324	40.7	27.5	24.1	5.6	2.2	<u>+</u> 0.112	1.033	2.01
Quality Restaurants	324	9.6	20.1	32.4	27.8	10.2	<u>+</u> 0.122	1.124	3.09
Nature-based tours	324	2.5	11.1	28.1	36.1	22.2	<u>+</u> 0.112	1.023	3.65
Camping	324	9.0	7.1	14.5	33.3	36.1	<u>+</u> 0.135	1.250	3.81
Unique/rare plants	324	3.1	7.7	20.4	35.2	33.6	<u>+</u> 0.116	1.057	3.89
Fishing	324	40.7	20.7	17.6	12.0	9.0	<u>+</u> 0.147	1.341	2.28
Festivals, concerts, markets, museums, etc.	325	8.6	15.7	33.5	32.3	9.8	<u>+</u> 0.118	1.089	3.19
Colonial era historv/structures	325	2.5	10.8	26.8	42.2	17.8	<u>+</u> 0.106	.979	3.62
Quality accommodation	325	6.5	11.1	34.8	31.1	16.6	<u>+</u> 0.118	1.089	3.40
Diving/snorkeling	324	38.3	22.5	20.7	11.7	6.8	<u>+</u> 0.137	1.267	2.26
Tourist information centres	322	1.6	8.7	25.2	35.1	29.5	<u>+</u> 0.110	1.003	3.82
Natural scenery	324	0.3	0.3	1.5	12.7	85.2	<u>+</u> 0.053	.484	4.82
Mild weather	325	6.2	17.2	40.9	24.3	11.4	<u>+</u> 0.114	1.044	3.18
Aboriginal culture/history	323	8.0	16.1	31.3	29.4	15.2	<u>+</u> 0.125	1.145	3.28
Local food	322	3.1	6.8	24.8	41.0	24.2	<u>+</u> 0.108	.995	3.76
Hiking	324	4.3	1.9	12.0	24.4	57.4	<u>+</u> 0.114	1.038	4.29
Transportation networks	325	4.9	10.5	22.8	31.4	30.5	<u>+</u> 0.125	1.149	3.72

In order to develop destination image factors to be used in regression analysis principle component analysis with varimax rotation was applied to the scale of twenty items commonly associated with Tasmania's tourism industry. At the same time Cronbach's alpha was used to test the reliability of this scale. Cronbach's alpha revealed that the overall reliability of the questionnaire was quite high (Cronbach's  $\alpha$  = .740). The Kaiser-Meyer-Olkin verified the sampling adequacy for this analysis (KMO = .710) The KMO value for mild weather was only .430. However, KMO values for all other individual items were > .623. Bartlett's test of sphericity  $\chi^2(190) = 1540.840$ , p < .001 indicates that correlations between items are sufficiently large enough for principle component analysis. Analysis was run to obtain eigenvalues for each component. Six of these had eigenvalues above Kaiser's criterion of 1. In combination these five components explained 59.84% of the variance. Table 43 shows the factor loadings after rotation along with the value of Cronbach's alpha for each factor that was identified.

Item	I	2	3	4	5	6
Local wine, beer, etc.	.806	073	.035	004	026	126
Quality restaurants	.793	.061	126	.038	.123	.179
Local food	.710	.019	.114	.277	131	.272
Festivals, concerts, markets, museums, etc.	.539	.019	.219	.222	.256	229
Nightlife/entertainment	.518	.068	038	135	.459	064
Unique/rare animals	039	.803	054	.087	.084	021
Unique/rare plants	048	.702	.201	.129	.001	003
Parks and protected areas	.068	.587	.314	016	177	230
Nature-based tours	.088	.548	016	.138	.162	.142
Natural scenery	.032	.410	.201	006	583	.110
Hiking	042	.124	.808	111	055	048
Camping	.040	.048	.799	.096	.192	105
Transportation networks	.085	.190	.583	057	.048	.486
Colonial era history/structures	.137	.171	.015	.856	.012	004
Convict history	.078	.161	087	.842	.081	.121
Diving/snorkeling	.120	.285	.263	105	.646	.079
Fishing	.054	.076	.079	.213	.617	.117
Mild weather	055	170	017	005	.007	.643
Quality accommodation	.437	.134	304	.139	.087	.545
Tourist information centres	.029	.434	.032	.208	.060	.538
Eigenvalues	2.605	2.397	2.070	1.776	1.571	1.549
% of variance	13.025	11.984	10.349	8.879	7.856	7.743
a	.743	.649	.651	.781	.390	.411

Table 43. Factor loading for Tasmania destination image items (bold numbers indicate loadings above 0.4).

Cronbach's alpha of .60 is the lower limit of acceptability for exploratory research (Hair, et al., 2010). Therefore, this was used as a cutoff point for factors to be included in regression analysis. Analysis suggests that component 1 represents urban attractions, component 2 represents natural attractions, component 3 represents Overland Track, component 4 represents colonial history, component 5 represents water-based activities and component 6 represents touring. Factor five had a low degree of reliability with a Cronbach's alpha value of

.390. Additionally, factor six had a low Cronbach's alpha value of .411. Removing 'mild weather' would have improved Cronbach's alpha value to .431. However, this item was retained for the analysis since it did not load heavily on any of the other factors.

To help understand how destination image differs between the three sample groups, comparisons were made between them. Table 44 illustrates the differences in importance given to each item according to the three sample groups that were tested. The main purpose of this is to help illustrate the differences in items that help form the destination image of each of the three sample groups. In the table the twenty items have been organized according to the importance ratings given by respondents. Therefore, the first item in the list was considered to be most important and the final item considered as least important. Overall importance ratings differed between the three sample groups. Therefore, numbers contained within brackets indicate the rank in importance of each item for the three sample groups tested.

ltem	n	Mean	Overland Track	Cradle Mountain Visitor Center	Central Highlands Fishing	
Natural scenery	324	4.82 <sup>1</sup>	4.84 <sup>a</sup> (1)	4.81 <sup>a</sup> <i>(1)</i>	4.69 <sup>a</sup> <i>(</i> 2 <i>)</i>	
Parks & protected areas	325	4.75 <sup>2</sup>	4.83 <sup>a</sup> (2)	4.70 <sup>a</sup> (2)	4.36 <b>(3)</b>	
Unique/rare animals	324	4.38 <sup>1</sup>	4.29 <sup>a</sup> (5)	4.48 <sup>a</sup> (3)	4.29 <sup>a</sup> <i>(4)</i>	
Hiking	324	4.29 <sup>3</sup>	4.74 <b>(3)</b>	3.94 <sup>a</sup> (6)	3.00 <sup>a</sup> (15t)	
Unique/rare plants	324	3.89 <sup>1</sup>	3.85 <sup>a</sup> (7)	3.97 <sup>a</sup> (5)	3.36 <sup>a</sup> (11t)	
Tourist information centres	322	3.82 <sup>4</sup>	3.63 ( <b>8</b> )	4.05 <i>(4)</i>	3.46 <b>(9)</b>	
Camping	324	3.81 <sup>3</sup>	4.38 <i>(4)</i>	3.29 <sup>a</sup> (14)	2.93 <sup>a</sup> (17)	
Local Food	322	3.76 <sup>4</sup>	3.61 <b>(9</b> )	3.90 (7)	4.00 (6)	
Transportation networks	325	3.72 <sup>3</sup>	4.04 <b>(6)</b>	3.46 <sup>a</sup> (12)	3.00 <sup>a</sup> (15t)	
Nature-based tours	324	3.65 <sup>1</sup>	3.54 <sup>a</sup> (10t)	3.78 <sup>a</sup> (8)	3.36 <sup>a</sup> (11t)	
Colonial era history/structures	325	3.62 <sup>1</sup>	3.54 <sup>a</sup> (10t)	3.70 <sup>a</sup> (9)	3.64 <sup>a</sup> (8)	
Quality accommodation	325	3.40 <sup>5</sup>	3.22 (1 <b>3</b> )	3.53 <sup>a</sup> (11)	4.07 <sup>a</sup> <i>(</i> 5 <i>)</i>	
Convict history	323	3.28 <sup>4</sup>	2.99 (1 <b>6</b> )	3.55 (10)	3.43 (10)	
Festivals, concerts, markets, museums, etc	325	3.19 <sup>1</sup>	3.27 <sup>a</sup> (12)	3.10 <sup>a</sup> (15t)	3.29 <sup>a</sup> (13)	
Mild weather	325	3.18 <sup>4</sup>	3.02 (14)	3.33 (1 <b>3</b> )	3.21 (14)	
Quality restaurants	324	3.09 <sup>6</sup>	3.01 <sup>a</sup> (15)	3.10 <sup>a</sup> (15t)	3.93 (7)	
Local wine, beer, etc.	323	2.85 <sup>1</sup>	2.82 <sup>a</sup> (17)	2.82 <sup>a</sup> (17)	2.57 <sup>a</sup> (18)	
Fishing	324	2.28 <sup>6</sup>	2.20 <sup>a</sup> (19)	2.12 <sup>a</sup> (19)	4.93 (1)	
Diving/snorkeling	324	2.26 <sup>2</sup>	2.26 <sup>a</sup> (18)	2.34 <sup>a</sup> (18)	1.43 <i>(20)</i>	
Nightlife/entertainment	324	2.01 <sup>1</sup>	1.96 <sup>a</sup> <i>(20)</i>	2.05 <sup>a</sup> <i>(20)</i>	2.21 <sup>a</sup> (19)	

Table 44. Importance of Tasmania destination image items (numbers in brackets indicate the ranking of each item for the three sample groups).

<sup>a</sup> Sample groups are statistically similar.

<sup>1</sup>No significant differences found between groups.

<sup>2</sup>Mean responses from Overland Track walkers and Cradle Mountain Visitor Centre guests were significantly higher than mean responses from Central Highlands fishing guests.

<sup>3</sup>Mean responses from Overland Track walkers were significantly higher than mean responses from Cradle Mountain Visitor Centre guests and Central Highlands fishing guests. <sup>4</sup>Mean responses from Cradle Mountain Visitor Centre guests were significantly higher than mean responses from Overland Track

walkers.

<sup>5</sup>Mean responses from Overland Track walkers were significantly lower than mean responses from Cradle Mountain Visitor Centre

guests and Winter Harbour fishing guests. <sup>6</sup>Mean responses from Central Highlands fishing guests were significantly higher than mean responses from Cradle Mountain fishing guests and Overland Track walkers.

# 5.3.1.3 Motivation

The tourist motivation scale contained twelve items. Participants were asked to rate the degree to which each item motivated them to take their vacation to Tasmania. Frequency of response for each item on the motivation scale is contained in Table 45.

ltem	n	Not Important %(1)	%(2)	%(3)	%(4)	Very Important %(5)	95% CI	SD	mean
Escape daily routine	323	4.6	5.9	16.7	26.0	46.7	<u>+</u> 0.123	1.136	1.04
Intellectual improvement	323	9.3	16.4	33.7	28.2	12.4	<u>+</u> 0.123	1.133	3.18
Go to fashionable places	322	55.0	26.4	14.0	2.8	1.9	<u>+</u> 0.102	.940	1.70
Experience different cultures/ways of life	323	12.1	15.5	21.1	24.8	26.6	<u>+</u> 0.147	1.345	3.38
Do exciting things	321	0.6	6.2	14.0	40.5	38.6	<u>+</u> 0.100	.908	4.10
Rest and relaxation	323	3.7	8.4	19.2	34.1	34.7	<u>+</u> 0.120	1.094	3.88
Experience new/different places	322	0.3	0.6	2.8	28.6	67.7	<u>+</u> 0.067	.604	4.63
Seek diversion and entertainment	323	11.5	22.6	37.5	19.5	9.0	<u>+</u> 0.122	1.112	2.92
Alleviate stress and tension	323	5.6	11.1	28.5	26.6	28.2	<u>+</u> 0.127	1.168	3.61
Tell friends about vacation experiences	323	22.6	26.3	27.9	14.9	8.4	<u>+</u> 0.133	1.223	2.60
Go to places friends have not visited	323	40.2	22.3	19.2	11.1	7.1	<u>+</u> 0.139	1.279	2.51
Seek adventure and pleasure	323	1.2	1.9	14.6	38.7	43.7	<u>+</u> 0.092	.850	4.27

 Table 45. Frequencies of response for Tasmania motivation scale items (bold numbers indicate most frequently recorded response).

Principle component analysis with varimax rotation was applied to the scale to uncover any underlying dimensions that may exist between the variables measuring this construct. In the initial analysis Cronbach's alpha revealed that the overall reliability of this scale was quite high (Cronbach's  $\alpha$  = .750). There were no items identified that would improve the reliability of the scale with their omission. The Kaiser-Meyer-Olkin verified the sampling adequacy for this analysis, KMO = .705 and all KMO values for individual items were > .655, which is above the acceptable limit of .5 (Field, 2009). Bartlett's test of sphericity  $\chi^2$  (66) = 846.659, p < .001 indicates that correlations between items were sufficient for principle component analysis. Eigenvalues were obtained for each component. Four of these had eigenvalues above Kaiser's criterion of 1 which explained 60.89% of the variance. Table 46 depicts the factor loadings after

rotation along with the value of Cronbach's alpha for each factor that was identified. Analysis suggests that component 1 represents relaxation, component 2 represents entertainment, and component 4 represents prestige. Items within component three do not appear to represent any specific underlying dimension.

Item	I	2	3	4
Alleviate stress &tension	.843	.039	026	.178
Escape daily routine	.721	.171	.080	.067
Rest &relaxation	.716	099	.236	.055
Seek diversion & entertainment	.430	.371	.195	.227
Do exciting things	.115	.798	.125	046
Seek adventure & pleasure	.090	.767	174	.179
Experience new/different places	061	.538	.295	.073
Experience different ways of life	.073	.299	.798	010
Intellectual improvement	.166	.003	.719	.014
Go to fashionable places	.087	017	.580	.286
Tell friends about vacation experiences	.110	.069	.144	.870
Go to places friends haven't visited	.197	.129	.055	.860
Eigenvalues	2.044	1.805	1.748	1.709
% of variance	17.031	15.043	14.566	14.244
α	.692	.569	.590	.782

Table 40 Feetenlastin ve fee	To a second a second se	(h. a.l.d	
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## 5.3.1.4 Recreation Opportunity Spectrum

Participants were provided with a list of six recreation activity setting types and asked to indicate the settings that they preferred when participating in outdoor activities All of the 325 (100.00%) respondents reported this information. A chi-square test for association was conducted between sample sites and recreation setting preferences. It revealed that statistically significant relationships do exist between sample sites and some of the preferred recreation settings. However, the strength of these relationships were generally quite low . The recreation settings that did not appear to be associated with a specific sample group include rural areas ( $\chi^2$  =

1.284; df = 4, p = 0.864; Cramer's V = 0.044) and urban areas ( $\chi^2$  = 2.607; df = 4, p = 0.626; Cramer's V = 0.063). The other four recreation setting types were associated with the three sample groups to a certain degree. The strongest relationship occurred between sample groups and the preference for large wilderness areas with limited trails and campsites ( $\chi^2$  = 29.354; df = 4, p = 0.000; Cramer's V = 0.213). This was followed by the strength of the relationships between sample sites and a preference for semi-wilderness areas with limited motorized access ( $\chi^2$  = 12.416; df = 4, p = 0.015; Cramer's V = 0.138), easily accessed natural areas with some facilities ( $\chi^2$  = 12.306; df = 4, p = 0.015; Cramer's V = 0.138) and finally large undisturbed wilderness areas ( $\chi^2$  = 9.810; df = 4, p = 0.044; Cramer's V = 0.123). These results are presented in Table 47.

	Overland		Cradl	e Mountain	C	entral	Total		
	T	rack	Visit	or Centre	Hi) F	Highlands Fishing			
Setting	n	%	n	%	n	%	n	%	
Large undisturbed	94	59.87	78	50.65	3	21.43	175	53.85	
wilderness areas									
Large wilderness areas with	130	82.80	86	55.84	8	57.14	224	68.92	
limited trails and campsites									
Semi-wilderness areas with	57	36.31	81	52.60	10	71.43	148	45.54	
limited motorized access									
Easily accessed natural	76	48.41	98	63.64	12	85.71	186	57.23	
areas with some facilities									
Rural areas	35	22.29	41	26.62	3	21.43	79	24.31	
Urban areas	43	27.39	54	35.06	5	35.71	102	31.38	

Table 47.	Recreation	setting	preferences	of <sup>-</sup>	Tasmania	respondents.

# 5.3.1.5 Visitor Experience Ratings

Three questions were included to measure visitor experience ratings. The questions asked respondents: i) the degree to which their visit met their expectations; ii) how likely they are to recommend the destination to others; iii) how likely they are to return in the future. To learn about any significant differences between the three sample groups ANOVA was conducted.

Analysis revealed that few differences exist between the visitor experience ratings for the three sample groups. All of the sample groups provided ratings above 4 for the three questions measuring experience. The first question revealed a significant difference between the Overland Track walkers and Cradle Mountain Visitor Centre guests. However, no significant differences in mean responses were found between groups for the final two questions (Table 48).

	0	verland	Track	Cr V	adle Mo	untain entre	Central Highlands Fishing				Total		
Question	n	mean	95% CI	n	mean	95% CI	n	mean	95% Cl	n	mean	95% CI	
How well did this trip meet your expectations?	154	4.69	<u>+</u> 0.088	152	4.49	<u>+</u> 0.096	14	4.36	<u>+</u> 0.331	320	4.58 <sup>1</sup>	<u>+</u> 0.065	
How likely are you to recommend this destination?	154	4.77	<u>+</u> 0.080	152	4.68	<u>+</u> 0.094	14	4.57	<u>+</u> 0.339	320	4.72 <sup>2</sup>	<u>+</u> 0.060	
How likely are you to return in the future?	154	4.26	<u>+</u> 0.163	152	3.95	<u>+</u> 0.186	14	4.64	<u>+</u> 0.566	320	4.13 <sup>2</sup>	<u>+</u> 0.122	

Table 48. Tasmania visitor experience ratings.

<sup>1</sup>Mean responses from Overland Track walkers were significantly higher than mean responses from Cradle Mountain Visitor Centre guests.

<sup>2</sup>No significant differences found between groups.

## 5.3.1.6 Nature-based Tourism Setting Preferences

To understand participant's nature-based tourism setting preferences they were each asked to rate their level of agreement with twelve statements expressing different views about the tourism and forestry industries. Frequencies of response for each item can be seen in Table 49.

Table 49. Frequencies of response for Tasmania nature-based tourism setting preference scale (bold numbers indicate most frequently recorded response).

ltem	n	Strongly Agree %(I)	Agree %(2)	Neither agree / disagree %(3)	Disagree %(4)	Strongly Disagree %(5)	95% Cl	SD	mean
When visiting destinations that market the natural environment I expect to see unspoiled wilderness.	322	47.8	40.4	10.8	0.9	0.0	<u>+</u> 0.078	.709	1.65
Forestry activities in natural areas provide additional access for outdoor recreation.	293	7.5	31.7	32.1	15.7	13.0	<u>+</u> 0.129	1.138	2.95
I expect to see evidence of forestry activities in destinations that market the natural environment.	296	3.0	16.9	21.6	31.1	27.4	<u>+</u> 0.129	1.143	3.63
Special care should be taken to ensure forestry does not impact upon the recreational values of natural areas.	316	49.1	38.0	8.2	2.5	2.2	<u>+</u> 0.098	.889	1.71
When visiting destinations that market the natural environment, evidence of forestry activities negatively affects my experience.	310	22.9	31.9	22.9	17.4	4.8	<u>+</u> 0.129	1.162	2.49
When participating in outdoor recreational activities my main focus is on the activity, rather than the scenic values of the setting.	315	1.0	3.8	19.0	47.6	28.6	<u>+</u> 0.094	.846	3.99
Evidence of forestry activities in regions that market the natural environment has very little impact on my experience.	309	1.6	16.5	21.0	34.3	26.5	<u>+</u> 0.122	1.087	3.68
When participating in outdoor recreational activities I prefer unspoiled wilderness.	315	43.2	41.3	12.4	3.2	0.0	<u>+</u> 0.088	.790	1.76
In destinations that market the natural environment forests should be preserved for their tourism values.	315	36.8	37.8	19.4	4.1	1.9	<u>+</u> 0.104	.949	1.97
Evidence of forestry activities near recreational areas has very little impact on my experience.	310	1.9	17.4	26.1	30.0	24.5	<u>+</u> 0.122	1.097	3.58
Development of forest resources is necessary, even in destinations that market the natural environment.	291	7.6	23.4	31.6	21.3	16.2	<u>+</u> 0.135	1.173	3.15
Observing evidence of forestry activities in natural areas while participating in outdoor activities negatively affects my experience	307	20.5	34.2	26.7	14.3	4.2	<u>+</u> 0.123	1.097	2.48

Principle component analysis with varimax rotation was applied to the scale. Cronbach's alpha revealed that the overall reliability of this scale was very high (Cronbach's  $\alpha$  = .876). Reliability analysis revealed reliability could be improved with the removal of the first item (Cronbach's  $\alpha$  = .877) and sixth item (Cronbach's  $\alpha$  = .881). However, these two items were retained for the analysis as improvement to reliability would have been minimal with their omission. The Kaiser-Meyer-Olkin verified the sampling adequacy for this analysis, KMO = .906 and all KMO values for individual items were > .852, which is well above the acceptable limit of .5 (Field, 2009). Bartlett's test of sphericity  $\chi^2$  (66) = 1155.590, p < .001 indicates that correlations between items were sufficiently high enough for principle component analysis. Eigenvalues were calculated for each of the three components. Three of these had eigenvalues higher than Kaiser's criterion of 1, which explained 62.22% of the total variance. Table 50 shows the factor loadings after rotation along with the value of Cronbach's alpha for each of the three factors identified.

Table 50. Factor loadings for Tasmania res	ponses to nature-based tourism setting preference scale items
(bold numbers indicate loadings above 0.4	

Item	I	2	3
Evidence of forestry activities near recreation areas has very little impact on my experience.	.784	149	004
Evidence of forestry activities in destinations that market the natural environment has very	.769	304	.138
little impact on my experience.			
I expect to see forestry activities in destinations that market the environment	.768	207	.066
Development of forest resources is necessary, even in destinations that market the natural	.753	115	150
environment.			
Forestry activities in natural areas provide additional access for outdoor recreation.	.659	053	.039
When visiting destinations that market the natural environment I expect to see unspoiled	031	.837	014
wilderness.			
When participating in outdoor recreation activities I prefer unspoiled wilderness.	281	.736	.044
In destinations that market the natural environment forests should be preserved for their	375	.532	038
tourism values.			
Observing evidence of forestry activities in natural areas while participating in outdoor	729	.404	008
activities negatively affects my experience			
When visiting destinations that market the natural environment, evidence of forestry	731	.361	.005
activities negatively affects my experience.			
When participating in outdoor recreation activities my main focus is on the activity rather	.303	193	.777
than the scenic values of the setting.			
Special care should be taken to ensure that forestry does not impact upon the recreation	379	.276	.622
values of natural areas.			
Eigenvalues	4.32	2.11	1.04
% of variance	35.99	17.56	8.68
α	.846	.778	.388

Following principle component analysis of the nature-based tourism setting preference scale, scores were calculated for each respondent. This was done by reverse coding all negatively worded items and adding the ratings given to produce a score out of 60. This score was then divided by 12 to create an index out of 5. The possible scores that respondents could receive ranged between 1 and 5, with 1 representing a high degree of acceptance for forestry impacts and 5 representing a low degree of acceptance. Comparisons were then made between the three sample groups. Analysis revealed statistically significant differences do exist between Overland Track walkers and Cradle Mountain Visitor Centre guests with Overland Track walkers

being less accepting of forest industry impacts, F(2,34.767) = 5.861, p < .05. These results can be seen in Table 51.

Sample Group	Ν	Mean	Min.	Max.	Range
Overland Track	139	3.87	2.25	5.00	2.75
Cradle Mountain Visitor Centre	131	3.58	2.25	5.00	2.75
Central Highlands Fishing	14	3.44	2.50	5.00	2.50
Total	284	3.71 <sup>1</sup>	2.25	5.00	2.75

Table 51. Nature-based tourism setting preference scores for Tasmania respondents.

<sup>1</sup>Mean score from Overland Track walkers was significantly higher than mean score from Cradle Mountain Visitor Centre guests.

## 5.3.1.7 Forestry Observations

The questionnaire that was distributed to tourists listed four types of forest industry impacts that visitors could potentially encounter while visiting Tasmania. These include harvested areas, tree plantations, logging trucks and saw/pulp mills. Participants were asked to indicate whether or not they had observed each type of impact during their trip. Out of 325 respondents, 317 completed this question (97.54%).

A chi-square test for association was conducted between sample sites and degree of exposure to forestry impacts. This revealed that statistically significant relationships do exist between sample sites and most impacts. However, the strength of these relationships varied depending on the type of forest industry impact. It appears that each of the four impact types measured were related to specific sample sites. The strongest relationship that was observed occurred between harvested areas and sample site ( $\chi^2 = 58.199$ ; df = 2; p = 0.000; Cramer's V = 0.428) with Cradle Mountain Visitor Centre and Central Highland Fishing guests being much more likely to encounter this type of impact than Overland Track walkers. This was followed by logging trucks ( $\chi^2 = 54.527$ ; df = 2; p = 0.000; Cramer's V = 0.415), which saw the likelihood of encountering this type of impact vary significantly between the three sample groups. Tree plantations were also shown to be associated with specific sample sites ( $\chi^2 = 34.626$ ; df = 2; p = 0.000; Cramer's V = 0.330) with Overland Track walkers being much less likely to encounter this type of impact two sample groups. Finally, saw/pulp mills were also
associated with specific sample sites ( $\chi^2$  = 12.704; df = 2; p = 0.002; Cramer's V = 0.200). However, this relationship was shown to be the weakest with Overland Track walkers having a lower likelihood than the other two sample groups of encountering this type of impact. The differences observed between sample sites is presented in Table 52.

	Overland Track		Cradle Mountain Visitor Centre		Cen Highland	tral s Fishing	Total		
Impact Type	n	%	n	%	n	%	n	%	
Harvested areas	66	43.42	126	83.44	13	92.86	205	64.67	
Tree plantations	82	53.95	128	84.77	11	78.57	221	69.72	
Logging trucks	33	21.71	86	56.95	13	92.86	132	41.64	
Saw/pulp mills	28	18.42	55	36.42	5	35.71	88	27.76	

Table 52. Observations of forest industry impacts in Tasmania.

### 5.3.1.8 Forestry Perceptions

In order to help understand how forestry impacts might affect post-visit destination image the questionnaire contained a question asking how four different impact types influenced perceptions of Tasmania as a tourist destination (i.e. harvested areas, tree plantations, logging trucks, saw/pulp mills). This question was measured on a 5-point Likert scale, with 1 being negative and 5 being positive. Analysis revealed that differences in opinion do exist depending on the type of forest industry impact observed. Harvested areas were the most likely to receive negative ratings (rating of 1 or 2) from respondents (46.1%). This was followed by logging trucks (44.9%) and saw/pulp mills (43.0%). Despite these findings, visitors were quite accepting of tree plantations with only 18.4% visitors indicating that observing this type of impact negatively impacted upon their perception of Tasmania as a tourist destination (Table 53).

Table 53. Tasmania forestry impact ratings (bold numbers indicate most frequently recorded response).

ltem	n	%(1) Negative	%(2)	%(3)	%(4)	%(5) Positive	95% Cl	SD	mean
Harvested areas	203	22.2	24.1	39.9	8.4	5.4	<u>+</u> 0.151	1.092	2.51
Tree plantations	218	8.3	10.1	48.6	17.9	15.1	<u>+</u> 0.171	1.283	3.17
Logging trucks	129	20.9	24.0	45.0	6.2	3.9	<u>+</u> 0.174	1.016	2.48
Saw/Pulp Mills	86	20.9	22.1	50.0	2.3	4.7	<u>+</u> 0.212	1.003	2.48

Despite the differences found between types of forest industry impacts, no statistically significant differences in ratings were found between the three sample groups (Table 54).

	Overland Track			Cradle Mountain Visitor Centre			Central Highlands Fishing			Total		
Type of Impact	n	mean	95% Cl	n	mean	95% Cl	n	mean	95% Cl	n	mean	95% CI
Harvested areas	65	2.34	<u>+</u> 0.260	125	2.59	<u>+</u> 0.190	13	2.54	<u>+</u> 0.525	203	2.51 <sup>1</sup>	<u>+</u> 0.149
Tree Plantations	81	3.10	<u>+</u> 0.220	126	3.27	<u>+</u> 0.196	11	3.45	<u>+</u> 0.484	218	3.20 <sup>1</sup>	<u>+</u> 0.141
Logging Trucks	31	2.13	<u>+</u> 0.343	85	2.62	<u>+</u> 0.200	13	2.38	<u>+</u> 0.595	129	2.48 <sup>1</sup>	<u>+</u> 0.169
Saw/pulp mills	27	2.56	<u>+</u> 0.278	54	2.52	<u>+</u> 0.270	5	1.60	<u>+</u> 0.900	86	2.48 <sup>1</sup>	<u>+</u> 0.200

Table 54. Tasmania forestry ratings according to sample group.

<sup>1</sup>No significant differences found between groups.

### 5.3.1.9 Forest Management Preferences

To learn about the forest management preferences of visitors the questionnaire contained a question that listed five possible management options for Tasmania's forests. With 1 indicating a high level of agreement and 5 indicating a low level of agreement respondents were asked to rate their agreement with each option. When presented with the option of making no changes to forest management practices, 60.7% of respondents indicated that they either disagree or strongly disagree with this statement. Of the forest management options presented to visitors, the limiting of harvesting near recreation areas to preserve scenic views received the most support, with 79.2% of respondents indicating that they either agree or strongly agree with this option. This was followed by the restriction of harvesting near transportation routes to preserve scenic views (60.3%). Despite the strong support for the restriction of timber harvesting in some areas, only 19.7% indicating that they believe timber harvesting should be banned throughout all areas of Tasmania (Table 55).

Management Option	n	Strongly Agree %(I)	Agree %(2)	Neither agree / disagree %(3)	Disagree %(4)	Strongly Disagree %(5)	95% CI	SD	mean
Make no changes	234	3.0	18.8	17.5	36.8	23.9	<u>+</u> 0.145	1.131	3.60
Limit near roadways	270	17.0	43.3	27.4	9.3	3.0	<u>+</u> 0.116	.971	2.38
Limit near recreation areas	284	32.4	46.8	14.8	4.6	1.4	<u>+</u> 0.102	.885	1.96
Heavily restrict throughout	266	22.9	22.9	28.2	20.3	5.6	<u>+</u> 0.145	1.201	2.63
Ban throughout all areas	268	10.4	9.3	22.0	40.3	17.9	<u>+</u> 0.143	1.194	3.46

Table 55. Forest management preferences of Tasmania respondents (bold numbers indicate most frequently recorded response).

For the most part, average acceptability ratings given to the various management options did not differ significantly between sample groups. This was the case for all the management options that were presented apart from one. Cradle Mountain Visitor Centre guests were much less likely than the other two sample groups to agree with the option limiting harvesting near recreation areas F(2,33.908) = 4.289, p < .05 (Table 56).

	Ov	verland	Track	Cr V	adle Mo isitor Ce	untain entre	Central Highlands Fishing			Total		
Management Option	n	mean	95% CI	n	mean	95% CI	n	mean	95% CI	n	mean	95% CI
Make no changes	108	3.64	<u>+</u> 0.218	114	3.50	<u>+</u> 0.204	12	4.17	<u>+</u> 0.582	234	3.60 <sup>1</sup>	<u>+</u> 0.145
Limit near roadways	130	2.28	<u>+</u> 0.167	128	2.51	<u>+</u> 0.169	12	2.00	<u>+</u> 0.417	270	2.38 <sup>1</sup>	<u>+</u> 0.116
Limit near recreation areas	134	1.81	<u>+</u> 0.147	137	2.12	<u>+</u> 0.149	13	1.85	<u>+</u> 0.435	284	1.96 <sup>2</sup>	<u>+</u> 0.102
Heavily restrict throughout	129	2.49	<u>+</u> 0.194	124	2.78	<u>+</u> 0.218	13	2.54	<u>+</u> 0.849	266	2.63 <sup>1</sup>	<u>+</u> 0.145
Ban throughout all areas	129	3.36	<u>+</u> 0.212	127	3.54	<u>+</u> 0.204	12	3.67	<u>+</u> 0.608	268	3.46 <sup>1</sup>	<u>+</u> 0.143

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Table 56.	Forest management	preferences for	Tasmania	respondents	according to	sample group.

 <sup>1</sup> No significant differences found between groups.
 <sup>2</sup> Mean responses from Cradle Mountain Visitor Centre guests were significantly higher than mean responses from Overland Track walkers.

### 5.3.1.10 Environmental Values

Due to its widely accepted use the NEP scale was adopted for the questionnaire to measure environmental values (Dunlap, et al., 2000; Dunlap, 2008). Frequencies of response for each item in the scale can be seen in Table 57.

Item	n	Strongly Agree %(1)	Agree %(2)	Neither agree / disagree	Disagree %(4)	Strongly Disagree %(5)	95% Cl	SD	mean
		<i>,</i> (1 <i>)</i>		%(3)		, ( <b>c</b> )			
We are approaching the limit of the number of people the earth can support.	313	36.7	32.3	16.9	9.6	4.5	<u>+</u> 0.127	1.145	2.13
Humans have the right to modify the natural environment to suit their needs.	311	4.2	30.2	13.8	29.3	22.5	<u>+</u> 0.137	1.241	3.36
When humans interfere with nature it often produces disastrous consequences.	313	36.4	45.0	8.6	7.7	2.2	<u>+</u> 0.108	.979	1.94
Human ingenuity will ensure that we do not make the earth unlivable.	309	10.0	14.9	30.7	23.0	21.4	<u>+</u> 0.139	1.243	3.31
Humans are severely abusing the environment.	312	48.7	36.9	5.8	4.8	3.8	<u>+</u> 0.114	1.019	1.78
The earth has plenty of natural resources if we just learn how to develop them.	312	19.2	32.7	12.8	21.2	14.1	<u>+</u> 0.151	1.353	2.78
Plants and animals have as much right to exist as humans.	312	60.6	25.6	6.1	7.4	0.3	<u>+</u> 0.102	.918	1.61
The balance of nature is strong enough to cope with the impacts of modern industrial nations.	313	2.2	7.0	10.5	30.0	50.2	<u>+</u> 0.114	1.028	4.19
Despite our special abilities humans are still subject to the laws of nature.	311	56.9	33.4	5.1	1.6	2.9	<u>+</u> 0.098	.888	1.60
The so-called 'ecological crisis' facing humankind has been greatly exaggerated.	310	2.6	14.8	15.8	26.8	40.0	<u>+</u> 0.129	1.171	3.87
The earth is a closed system with very little room and resources.	310	31.9	31.3	19.0	11.9	5.8	<u>+</u> 0.133	1.197	2.28
Humans were meant to rule over the rest of nature.	312	4.2	9.9	8.3	24.0	53.5	<u>+</u> 0.129	1.174	4.13
The balance of nature is very delicate and easily upset.	309	48.9	34.0	6.8	8.4	1.9	<u>+</u> 0.114	1.017	1.81
Humans will eventually learn enough about how nature works to be able to control it.	311	3.5	15.4	26.7	27.3	27.0	<u>+</u> 0.127	1.143	3.59
If things continue on their present course, we will soon experience a major ecological catastrophe	312	37.5	31.1	20.5	9.0	1.9	<u>+</u> 0.118	1.054	2.07

Table 57. Frequencies of response for NEP scale items in Tasmania (bold numbers indicate most frequently recorded response).

In the initial analysis Cronbach's alpha revealed that the overall reliability of the scale was fairly high (Cronbach's  $\alpha$  = .800). Reliability analysis revealed that there were no items that would improve the reliability of the scale with their omission. Therefore, all fifteen items were retained for analysis. The Kaiser-Meyer-Olkin verified the sampling adequacy for this analysis, KMO = .843 and all KMO values for individual items were > .769, which is well above the acceptable limit of .5 (Field, 2009). Bartlett's test of sphericity  $\chi^2$  (105) = 823.812, p < .001 suggests that correlations between items were sufficient for principle component analysis. Analysis was run to obtain eigenvalues for each component. Four of these had eigenvalues above Kaiser's criterion of 1 and in combination explained 52.20% of the variance. Table 58 depicts the factor loadings after rotation along with the value of Cronbach's alpha for each factor that was identified.

 Table 58. Factor loading of new ecological paradigm scale items for Tasmania respondents (bold numbers indicate loadings above 0.4).

Statement	I	2	3	4
If things continue on the present course we will soon experience a major	.621	.337	154	173
ecological catastrophe.				
When humans interfere with nature it often produces disasterous	.611	.130	.001	152
consequences.				
Humans are severely abusing the environment.	.560	.361	.055	.068
Plants and animals have as much right as humans to exist.	.270	001	.090	713
The earth is a closed system with limited room and resources.	.077	.762	279	.130
We are approaching the limit of the number of people the earth can	.140	.653	097	068
support.				
Despite our special abilities, humans are still subject to the laws of	.119	.543	.078	298
nature.				
The balance of nature is very delicate and easily upset.	.360	.490	077	086
Human ingenuity will ensure we do not make the earth unlivable.	231	.076	.688	.177
Humans will eventually learn enough about how nature works to control	.012	183	.677	.200
it.				
The earth has plenty of natural resource if we just learn how to develop	194	341	.630	107
them.				
The balance of nature is strong enough to cope with the impacts of	607	.088	.400	.176
modern industrial nations.				
The so-called ecological crisis facing humankind has been greatly	658	109	.350	.084
exaggerated.				
Humans were meant to rule over the rest of nature.	011	176	.168	.721
Humans have the right to modify the natural environment to suit their	095	002	.315	.638
needs.				
Eigenvalues	2.22	2.01	1.87	1.73
% of variance	14.78	13.39	12.49	11.55
α	.556	.598	.698	.564

After principle component analysis of the NEP scale, scores were calculated for each participant. The possible scores that respondents could receive ranged between 1 and 5, with 1 representing a anthropocentric worldview and 5 representing an environmentalist worldview. Comparisons were then made between the three sample groups. Analysis revealed that no significant differences in environmental values exist between the three sample groups. These results can be seen in Table 59.

Sample Group	Ν	Mean	Min.	Max.	Range
Overland Track	151	3.86	1.93	5.00	3.07
Cradle Mountain Visitor Centre	144	3.87	2.40	5.00	2.60
Central Highlands Fishing	12	3.74	2.73	4.80	2.07
Total	307	3.86 <sup>1</sup>	1.93	5.00	3.07

Table 59. New ecological paradigm scores for Tasmania respondents.

<sup>1</sup> No significant differences were found between groups.

### 5.3.2 Linear Regression Models for Forest Industry Impacts and Tourism Image

Linear regression was employed to help understand the ways that various sample characteristics influence the degree to which forestry impacts affect visitor perceptions. The questionnaire asked respondents about the degree to which four types of forest industry impacts affected their perception of Tasmania as a tourist destination. Therefore, one model is presented for each of the four types of forest industry impacts that were included in the questionnaire. These include harvested areas, tree plantations, logging trucks and saw/pulp mills.

The analysis considered a variety of independent variables that include age, gender, years of education, affiliation with conservation organizations, nature-based tourism setting preference score, new ecological paradigm score, residency (Australia, International) and four destination image scores (urban attractions, natural attractions, Overland Track and colonial history). Demographic characteristics were selected because they have been shown to correspond with certain environmental values (Dunlap, 2008), recreation setting preferences (Hunt et. al. 2000) and destination image (Beerli & Martin, 2004a; Beerli & Martin 2004b). To see whether or not these constructs influence tourist perceptions of forest practices results from the nature-based tourism setting preference scale, new ecological paradigm scale and destination image scale were also included in the regression analysis. In order to test for multicollinearity and help identify highly correlated variables Pearson correlations were calculated. However, none of these values exceeded 0.7 which means that none of the independent variables were too highly correlated (Field, 2009).

### 5.3.2.1 Harvested Areas

The independent variables that were shown to be significant predictors of the ratings given to harvested areas include nature-based tourism setting preference score, region, and new ecological paradigm score. In combination these variables were able to explain 32.9% of the variation in ratings given to harvested areas (Table 60).

Table 60. R	<sup>2</sup> and	<b>Durbin-Watson</b>	values f	or har	vested	areas	in	Tasmania
Table 60. R	f and	Durbin-Watson	values f	or har	vested	areas	in	Tasmania

R <sup>2</sup>	Adjusted R <sup>2</sup>	Durbin-Watson
.370	.329	1.718

The amount that each of these variables affected ratings given to harvested areas was shown to differ. One of these variables exhibited a positive relationship, while a negative relationship was observed with the other two variables. Based upon the analysis it appears that an increase in nature-based tourism setting preference score results in a decrease to ratings of harvested areas. Like tourism setting preference score, an increase to new ecological paradigm score also results in a decrease to harvested area ratings. Lastly, international residency was shown to be a predictor of higher harvested area ratings (Table 61).

Table 61. Predict	ors of harvested	area ratings from	Tasmania respondents.
		J	

Variable	В	S.E.	Beta	t	Sig.
Constant	6.042	.773		8.285	.000
Nature-based Tourism Setting Preference Score	500	.116	333	-4.317	.000
Destination Image (Urban Attractions)	009	.095	006	094	.925
Destination Image (Natural Attractions)	004	.151	002	023	.981
Destination Image (Overland Track)	029	.083	025	347	.729
Destination Image (Colonial History)	.049	.086	.042	.574	.567
Region (Australia/International)	.483	.182	.176	2.653	.009
Age	004	.005	061	851	.396
Gender	.241	.145	.108	1.662	.098
Years of Education	021	.013	100	-1.558	.121
Conservation Organization	034	.184	012	184	.854
New Ecological Paradigm	466	.134	257	-3.473	.001

### 5.3.2.2 Tree Plantations

Independent variables that were shown to be predictors of the ratings given to tree plantations include nature-based tourism setting preference score and new ecological paradigm score. In combination these two variables accounted for 16.5% of the variation in ratings given to this type of forestry impact (Table 62).

R <sup>2</sup>	Adjusted R <sup>2</sup>	Durbin-Watson
.215	.165	2.030

Both of these independent variables exhibited a negative relationship with ratings given to tree plantations. This means that ratings of plantations decrease as nature-based tourism setting preference score's increase. Ratings of tree plantations were also shown to decrease as new ecological paradigm score's increase (Table 63).

Variable	В	S.E.	Beta	t	Sig.
Constant	5.639	.821		6.865	.000
Nature-based Tourism Setting Preference Score	371	.124	243	-2.990	.003
Destination Image (Urban Attractions)	.082	.103	.057	.799	.425
Destination Image (Natural Attractions)	125	.165	060	759	.449
Destination Image (Overland Track)	.044	.094	.035	.472	.637
Destination Image (Colonial History)	.114	.088	.101	1.289	.199
Region (Australia/International)	045	.184	018	247	.805
Age	.009	.006	.118	1.565	.119
Gender	.054	.161	.024	.335	.738
Years of Education	019	.015	092	-1.331	.185
Conservation Organization	083	.207	028	400	.689
New Ecological Paradigm	376	.146	208	-2.579	.011

### 5.3.2.3 Logging Trucks

The only independent variables that were shown to be significant predictors of ratings given to logging trucks were residency and new ecological paradigm score. In combination these variables were shown to account for 27.5% of the variation found in the ratings given to logging trucks (Table 64).

Table 64. R <sup>2</sup> and Durbin-Watson values for logging t	trucks in Tasmania.
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R <sup>2</sup>	Adjusted R <sup>2</sup>	Durbin-Watson
.348	.275	1.612

The degree to which these two variables were able to predict ratings given to logging trucks was calculated. New ecological paradigm score exhibited a negative relationship with logging truck ratings, meaning that ratings of logging trucks decrease as new ecological paradigm score's increase. International residency also seemed to be a predictor of higher ratings given to logging trucks (Table 65).

Variable	В	S.E.	Beta	t	Sig.
Constant	5.187	.948		5.469	.000
Nature-based Tourism Setting Preference Score	212	.153	144	-1.385	.169
Destination Image (Urban Attractions)	068	.112	053	607	.545
Destination Image (Natural Attractions)	139	.196	071	708	.481
Destination Image (Overland Track)	087	.108	075	799	.426
Destination Image (Colonial History)	.168	.108	.161	1.551	.124
Region (Australia/International)	.650	.215	.270	3.022	.003
Age	.012	.007	.179	1.846	.068
Gender	.232	.185	.110	1.254	.213
Years of Education	017	.015	098	-1.140	.257
Conservation Organization	.124	.222	.048	.557	.579
New Ecological Paradigm	530	.174	326	-3.041	.003

Table	~ <i>E</i> <b>E</b>	) and late no	~f   ~ ~ ~			. f	T	
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### 5.3.2.4 Saw/Pulp Mills

Two independent variables were shown to be significant predictors of ratings given to saw/pulp mills. These include nature-based tourism setting preference score and years of education. In combination these two variables accounted for 22.9% of the variation in ratings given to this forest industry impact type (Table 66).

Table 66. R <sup>2</sup> a	and Durbin-Watson	values for	saw/pulp mi	lls in Tasmania.
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R <sup>2</sup>	Adjusted R <sup>2</sup>	Durbin-Watson
.345	.229	2.017

The degree to which these two variables affected saw/pulp mill ratings was calculated, both of which exhibited a negative relationship with the dependent variable. This means that ratings given to saw/pulp mills decreased as nature-based tourism setting preference score's increased. In addition to this, ratings given to this type of impact were shown to increase as years of education decreased. The significance in the relationships between the independent and dependent variables is depicted in Table 67.

Table 6	7. Pre	dictors	of saw	/pulp r	nill ra	tinas f	from T	asmania	respondents.
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Variable	В	S.E.	Beta	t	Sig.
Constant	6.946	1.183		5.872	.000
Nature-based Tourism Setting Preference Score	475	.187	347	-2.540	.011
Destination Image (Urban Attractions)	.036	.147	.030	.244	.808.
Destination Image (Natural Attractions)	317	.249	160	-1.276	.207
Destination Image (Overland Track)	.110	.132	.098	.832	.409
Destination Image (Colonial History)	.046	.157	.043	.295	.769
Region (Australia/International)	285	.316	108	902	.371
Age	004	.008	058	482	.632
Gender	.426	.238	.203	1.792	.078
Years of Education	046	.020	251	-2.270	.027
Conservation Organization	098	.310	.036	317	.752
New Ecological Paradigm	340	.224	209	-1.520	.134

# 5.4 Summary of Results

A number of interesting conclusions can be drawn based upon the results from the Tasmania data analysis. For the first question of the questionnaire the five highest ranked destination image items were natural scenery, parks & protected areas, unique/rare animals, hiking and unique/rare plants. Therefore, it seems that a high proportion of respondents considered a number of aspects associated with the natural environment to be important in shaping Tasmania's tourism image. Despite there being some differences found between the sample groups they all identified items associated with the natural environment as being important which suggests that these types of items play an important role in shaping the destination image of Tasmania.

The nature-based tourism setting preference scale revealed some differences between the sample groups. All three groups received a score that was above the mid-point of the scale, which is 3. This suggests that each group prefers nature-based tourism settings that do not contain obvious forest industry impacts to a certain degree. However, a statistically significant difference was shown to exist between the Overland Track walkers and Kwisitis Visitor Centre guests, with Overland Track walkers being more likely to prefer nature-based tourism setting preferences that do not contain obvious forestry impacts. This seems to indicate that Overland Track walkers could be more likely to have their experience affected by the presence of forest industry impacts. Due to the small sample size from the Central Highlands fishing group, no significant differences from the other two sample groups could be confirmed.

The likelihood of visitors encountering forest industry impacts in Tasmania was relatively high. The most common type of forestry impact that visitors were likely to encounter were tree plantations, with nearly 70% of respondents reporting that they had observed this type of impact during their trip. This was followed by harvested areas, with nearly 65% of respondents encountering these. However, the likelihood of observing these areas was shown to differ between sample groups. Based on the analysis it appears that Overland Track walkers had much less exposure to each of the four forest industry impacts, compared to the other two sample groups. This seems to suggest that forest industry impacts are much less visible along transportation corridors that lead to the Overland Track, when compared to other areas of Tasmania. The question asking participants about the degree to which forest industry impacts affected their perception of Tasmania as a tourist destination revealed that some differences do exist depending upon the type of impact observed. For example, more than 45% of respondents indicated that observing harvested areas had a negative effect on their perception of Tasmania as a tourist destination. This number was even higher for saw/pulp mills with more than 60% of respondents rating them unfavorably. Despite these findings, less than 20% of respondents said that tree plantations negatively affected their perception. Despite these findings, no statistically significant differences were found between the three sample groups. However, this could be a result of the low numbers of respondents in the Overland Track and Central Highlands fishing groups who observed certain types of forest industry impacts.

Analysis of the forest management preference question revealed that more than 60% of respondents would like to see some changes made to forest management practices in Tasmania. The management option receiving the most support was the limiting of harvesting near recreation areas with nearly 80% of respondents supporting this option. This was followed by limiting harvesting near roadways with over 60% indicating that they agree with this option. Despite the support that was shown for the restriction of forestry in certain areas, very few individuals indicated that they support a complete ban on forestry throughout the state. The only difference found between the three sample groups was in relation to the option of limiting harvesting near recreation areas, with Overland Track walkers being more likely to support this option than Cradle Mountain Visitor Centre guests.

To understand the degree to which certain variables were able to predict ratings given to the four forest industry impact types, linear regression analysis was used. The amount that each of these variables was able to predict ratings was partly dependent upon the type forest industry impact in question. Although the predictive power of each of the models was quite limited, nature-based tourism setting preference score, new ecological paradigm score and residency seemed to be the most significant predictors of ratings given to forest industry impacts. Variables that were able to help predict ratings given to harvested areas include nature-based tourism setting preference score, new ecological paradigm score and residency (Australia or international). Nature-based tourism setting preference score and new ecological paradigm score were also shown to be significant predictors of ratings given to tree plantations.

Residency and new ecological paradigm score were significant predictors of logging truck ratings. Lastly, tourist sensitivity score and years of education were significant predictors of ratings given to saw/pulp mills.

# 5.5 Conclusion

The highest ranked items on the destination image scale related to natural landscapes and outdoor activities suggesting that this is important for shaping the destination image of research participants in Tasmania. The nature-based tourism setting preference scale revealed that a high proportion of visitors to Tasmania prefer landscapes that have not been visibly impacted by forestry. This was supported by responses to the question asking about the degree to which certain forest industry impacts affected perceptions. Overall, harvested areas were rated towards the lower end of the scale. However, visitors rated tree plantations much higher. This is likely because they are often less visible within the landscape. More than 60% of respondents disagreed with the statement suggesting 'no forest management changes are need in Tasmania.' This could suggest that changes to forest management practices could produce positive results for tourism.

Certain differences between the sample groups were also uncovered. According to the naturebased tourism setting preference scale Overland Track walkers were less accepting of forest industry impacts than Cradle Mountain Visitor Centre guests. Despite this finding, no significant differences were found between groups for the question that asked participants to rate the degree to which certain forest industry impacts affected their perceptions. In terms of support for various forest management options, Cradle Mountain Visitor Centre guests were more likely than the other sample groups to agree with the statement suggesting that harvesting should be limited near recreational areas. However, no other differences were noted between the sample groups. When considering these results it is important to note the small sample size from the Central Highlands fishing group. It is possible that a larger sample size may have resulted in the discovery of more significant differences between this sample group and the others. Even though this limits reliability of findings from the Central Highlands fishing group, the other two sample groups received a sufficient number of responses.

# Chapter 6 Vancouver Island & Tasmania Interview Results

## 6.1 Introduction

This chapter presents results from the interviews that were conducted with tourism and forestry professionals from both Vancouver Island and Tasmania. The primary purpose of these interviews was to gain insight into the actual conflicts that do occur between forestry and tourism and uncover measures that may be used to manage these types of conflicts most effectively. The analysis was based on interviews with tourism and forestry professionals from both study regions and includes business owners, academics, government employees and representatives from industry organizations. In total 37 individuals were interviewed (19 in Tasmania and 18 in Vancouver Island). In both case study destinations there were a higher number of tourism affiliated interview participants than forest industry participants. This was because saturation was achieved much earlier with forest industry affiliated interviewees. Those working for forest management organizations showed a tendency to answer many interview questions in a similar way, whereas the opinions of tourism operators were highly dependent upon their personal situations, experiences and opinions. Therefore, more interviews were required with tourism affiliated interviewees to account for the diversity found within that group. The number of interviewees affiliated with tourism and forestry is shown in Table 68. Interviews were either conducted in-person or by telephone and generally lasted between 30 and 60 minutes.

Table 68. Industry Affiliation of Interview Participants

	Forest Industry Affiliation	Tourism Industry Affiliation	Other (land use management)
Vancouver Island	7	11	0
Tasmania	5	13	1

# 6.2 Analysis of Results

QSR NVivo version 10 was used to analyze the results of the semi-structured interviews. Interview questions were designed with the purpose of learning about actual tourism and forestry conflicts, as well as measures that can be taken to alleviate these situations. Therefore, these topics were used to help guide the analysis, with additional themes being uncovered through the contents of the interviews. The following sections are structured around information that was uncovered during the interview process. Quotations from participants have been selected and included within the text to help illustrate the most prevalent and important points that were touched upon during the interviews.

## 6.2.1 Overview

In regions where nature-based tourism and forestry are both important contributors to local economies there are many situations where these two sectors are forced to interact with one another. Often times this can lead to conflict. However, there are also a number of ways that these two sectors can provide benefits for one another. The following sections detail the positive and negative aspects associated with managing these two industries in Tasmania and Vancouver Island according to interview respondents. Possible solutions that could be used to help minimize potential conflicts were also discussed. These perspectives will also be highlighted. Finally, the relationship between the two industries in both regions according to interview respondents will be characterized with the purpose of understanding the effectiveness of tourism and forestry management strategies that are currently in place.

### **6.2.2 Positive Impacts**

Like many other regions, the forest industry in Vancouver Island does provide certain benefits to the nature-based tourism industry. Many of these benefits were identified in the semi-structured interviews. For example, forestry helps to provide access to remote places for many nature-based tourists. Roads that were originally constructed for logging provide visitors with numerous opportunities to participate in activities such as wildlife viewing, fishing and hiking. This is the case in Vancouver Island, as well as the rest of British Columbia. These benefits were noted by two of the participants who were affiliated with the tourism industry. One of these individuals stated:

There is a lot of tourism products in the province that probably wouldn't exist in the way that they do right now without the road access that has been created by the forest industry, there is no doubt. So that is really a positive thing (VI 5).

Although this is not the case for all types of operations, forestry often provides extra revenue for tourism businesses. In many regional areas forest industry workers utilize tourism related services such as accommodation and food establishments. According to one of the tourism affiliated interview participants, a large proportion of revenue for these types of businesses can actually come from workers who are working away from home. This is especially true during the low season for tourism (e.g. winter) and for more remote areas. Other potential benefits identified by interview participants include the interpretive value associated with certain types of forest industry impacts and the extra publicity that can be created by high-profile resource use conflicts that attract media attention.

Similar to Vancouver Island the forest industry in Tasmania has been credited with providing certain benefits to the tourism industry. A number of these benefits were touched on during the semi-structured interviews that took place with Tasmanian tourism and forestry professionals. The additional access that forestry provides to many remote areas in the state can benefit the tourism industry by increasing opportunities. This was explained by one forestry affiliated interviewee who said:

Nearly all access to these more remote areas in Tasmania has been created in the past either by the mining industry or the forest industry. Through road and infrastructure put in to undertake either mining or forestry. Tourism operators use those roads. They use them to gain access and build their premises, set up their businesses... (TA 19)

Additional business from forestry workers was also identified by multiple interview participants as a benefit that the industry provides to tourism businesses in Tasmania. When speaking about the current downturn in the Tasmania forest industry, one of the tourism affiliated interviewees expressed concern about the impact it could have on their accommodation and restaurant business. It is this additional revenue which has led some tourism operators (mainly food and accommodation providers) to become strong supporters of the forest industry. This was explained by one of the tourism affiliated interview participants who stated:

There are parts of the state where the motel operator's other major clients are the truckies who drive for forestry. They are major supporters of the forest industry (TA 12).

The other major benefit that the Tasmania forest industry provides tourism relates to the numerous regional development projects that have been initiated by Forestry Tasmania. This forest management organization is unique in terms of its development of tourism attractions. Although these attractions have met with varying levels of success, some have been credited with rejuvenated local economies that were previously experiencing economic hardships. When speaking about the Tahune Airwalk, which is Forestry Tasmania's feature tourist attraction, one forest industry affiliated interviewee explained:

For example, the Huon Valley. You look at all these little B&B's and they have got lodges and whatever else. And everybody says '10km away from the airwalk or 15 km away and pictures from the airwalk.' So it is the main attraction down there in the Huon Valley. Dispersement into that area. Without that there would be a lot less people going there. Development is still going on because of the success of the Tahune Airwalk (TA 5).

### 6.2.3 Negative Impacts

Despite the benefits identified, many individuals within the tourism industry view forestry as a detriment to their business. This is supported by the interviewees who identified situations in which forestry has negatively impacted upon the nature-based tourism sector. The most obvious

impacts associated with forestry relate to the visual effects that harvesting can have on scenic landscapes. This seems to be recognized by individuals who work in both forestry and tourism, as multiple interviewees from both industries discussed this. The potential impact that insensitive forest practices can have on a tourism product that relies on natural attractions was highlighted by one interviewee who explained:

Our product involves selling an experience to people who travel to British Columbia to experience that wilderness and nature, natural values that BC has historically had a reputation for. So industrial activity and the visual impact of clear-cuts diminishes that wilderness value in the eyes of the tourists, which in turn lowers the value of our tours and makes them less marketable, less saleable and lowers the quality of experience for people (VI 4).

Like Vancouver Island, interviewees from Tasmania indicated that forestry can negatively affect tourism if harvesting practices lead to visual impacts that are insensitive to the needs of nature-based tourists. When speaking about the way that encounters with clear-cut areas affected the perceptions of tourists one tourism affiliated interview participant said:

I have a lot of tourists come this way and they talk about the clearfelling. I think it's one of the key things that forestry did wrong. If you drive through sassafras where the apple orchards and all that are, where the pine plantations are. People on coach buses will come to me and tourists will come to me and talk about all that clearfelling there (TA 11).

Along with the visual impacts associated with forestry, other aspects of land use were identified by interviewees as having the potential to negatively impact upon the tourism industry. Landscape scale alterations over large areas were identified as a concern in regions of Vancouver Island that are considered to have exceptional tourism value. While discussing the impact that numerous tourism businesses are facing in their region one interviewee stated:

It seems like the more you talk about the issue with people, the more you hear them say, 'oh, my camp is dealing with impending forestry activity in the channel.' It just never seems to end (VI 3).

The previous quote suggests that some nature-based tourism businesses struggle in landscapes that are dominated by forest industry impacts. However, a large number of naturebased tourism operators have no choice but to operate in these highly altered landscapes. This is because commercial tourism opportunities are limited within protected areas and very few regions outside of protected areas are specifically managed for the maintenance of tourism values. Instead, most areas of Vancouver Island are managed for timber production. The lack of areas accessible to commercial nature-based tourism opportunities was highlighted by one forest industry affiliated interviewee who said:

We have a very extensive parks and recreation system in Vancouver Island, where we as members of the public can go and enjoy that pristine wilderness setting, the trail networks, the campground networks. But tourism operators cannot facilitate that experience for us because they are unable to get tenure. And so they are locked out looking in. And because they cannot get tenure they cannot offer a wilderness experience in the wilderness settings that we are managing for (VI 14).

When speaking about the impacts associated with the clear-cuts that can be found in many areas of Tasmania, one of the tourism affiliated interviewees expressed concern about the negative effect that this has upon his tourism product.

So I would have a track I would go to, so I could just get away from cleared areas. I would come back in a month's time and it would be cut down. And I'm like, 'no, not again.' (TA 3).

Additional access to remote areas was identified as a benefit that is provided by forestry. However, the presence of a forest industry can also result in certain areas being closed to the public. This is an issue that was brought forward during interviews with multiple tourism industry affiliated participants in Vancouver Island. In certain instances this could negatively impact upon tourism operators who may have previously used these areas to support their businesses.

Other concerns expressed by tourism affiliated interviewees in Vancouver Island include issues related to traffic congestion on tourist routes and impacts to the natural environment. Although

not an issue in all areas of Vancouver Island, roads frequented by both tourists and logging trucks were identified as a potential source of conflict between the two industries because of safety concerns. This is especially true for gravel and dirt roads in some of the more remote areas. Concerns about the natural environment were also mentioned by some interviewees as a source of conflict. These concerns included impacts to wildlife populations and watersheds in certain areas.

Although they did not feature as prominently as the impacts associated with timber harvesting, other ways in which forestry can negatively affect tourism in Tasmania were also identified during the semi-structured interviews. Traffic issues have arisen in the past where logging trucks and tourist traffic are forced to share the same roads. However, the downturn in the Tasmania forest industry in recent years has significantly reduced the number of logging truck encounters that visitors are likely to have. Unfortunately, this downturn has indirectly led to a new traffic related issue. Over the years many forestry roads have also become popular tourist access routes in certain areas. Some of these have fallen into disrepair as a result of the current economic problems facing the Tasmanian forest industry. When speaking about this issue one of the forestry affiliated interview participant explained:

Things like roads on Bruny Island that are forestry roads. These types of things, in terms of maintenance, we cannot afford to maintain these things anymore. In the case of the roads on Bruny we are not harvesting in that area anymore so we do not maintain the roads. Tourists and people who have shacks on Bruny use those roads. And then they get angry at us because we are not maintaining the roads (VI 18).

Because of the high proportion of eucalypt forests found within Tasmania, regeneration and fuel reduction burning is a common forest management practice to help maintain forest health and protect assets. If not planned in a way that considers nearby communities, this practice has the potential to negatively affect surrounding areas due to the visual and health effects associated with the smoke. When speaking about the problems that this could cause for tourism operators one of the tourism affiliated interviewees explained:

The main thing is the regen burns. The main issue that would tick people off, operators, would be if you are down in the Huon Valley and a little B&B charging \$300 a night and

there is a bloody napalm bomb in the back of your hills. And you are selling Beautiful Tasmania (TA 12).

The distribution of protected areas was also identified as an issue that may lead to conflict between forestry and tourism in Tasmania. Despite having such a high proportion of protected land in Tasmania, much of this is concentrated in the southwest portion of the state. According to one tourism affiliated interview participant, this has caused other areas to become more heavily impacted by the forest industry, ultimately impacting upon tourism. When speaking about this issue they stated:

We have got all these up here but unfortunately it looks like a bloody checkerboard at the moment because you have got a nice bit here, but a big chunk taken out over there, a nice bit there with a big chunk taken out over here. So there are no corridors for me to continue to go through and do what I do without running into some bloody mess somewhere. That is the annoying part (TA 3).

The way that forest management is structured within Tasmania was identified as another potential source of conflict between forestry and tourism. As a 'forest management corporation', Forestry Tasmania is responsible for managing forests for a wide range of values that include tourism, conservation and recreation. However, they must also concern themselves with generating profits which primarily comes from timber products. It is the inherent conflicts associated with these diverse responsibilities that are a cause of concern for certain individuals. As stated by one tourism affiliated interview participant:

So the model that we have got where the government agency is both the manager, the protector, but also the exploiter is not a good model. You don't get transparency in those sorts of models. Particularly from a public perspective (TA 13).

A number of structural issues that help contribute to some of the conflict situations in Vancouver Island were revealed during the interview process. Because timber production gets such a high priority in British Columbia it puts businesses that utilize forested areas for other purposes at a disadvantage. The influence that forestry has in the province was expressed by one forestry affiliated interviewee who stated:

The development of the forest sector in the early 1900's and the assumptions that kept happening until at least 1984 or so were very clearly skewed to developing the major economic driver of the province, which at that time was forestry. And we zoned literally all of the sector to forestry... Now we are talking about changing zoning in favor of tourism... All the government action regulation says is that if you are going to change the zoning, you have to have a better public outcome than the current zoning. While you are right that it puts a lot of power in the forest industry's hands, it is predicated on the fact that it was king at one point (VI 17).

Frustration with the priority that is given to timber production as opposed to other economic activities in the province was expressed by one tourism industry affiliated interviewee who said:

*It (tourism) generates a lot of money and a lot of taxation. But the Ministry of Forests is still managing the forest and viewscapes like it's 1965. Like forestry is 'where it's at.' (VI 13)* 

It was also argued that some of the legislation governing natural resource management in British Columbia is somewhat skewed in favor of the forest industry. Some of this concern was directed towards the introduction of the *Forest Range and Practices Act* that was introduced in 2003 and the degree of power that it gives to the forest industry. One tourism affiliated interviewee expressed his concern about this by stating:

I think it was in 2003 when the Liberal government changed the Forest Range and Practices Act and basically took all of the accountability out of it. So it did not really matter what type of tenure you had. You did not need to inform the community of what your plans were (VI 13). Concerns about the *Forest Range and Practices Act* and the power it gives to forestry were echoed by another tourism affiliated interviewee. When speaking about the *Forest Practices Code* that was replaced by the *Forest Range and Practices Act* in 2003 this individual said:

With all the watering down of the Forest Practices Code and implementation of stewardship agreements with the companies, which is basically the fox looking after the henhouse. I think things have really gone backwards (VI 7).

Another underlying issue mentioned by one of the tourism industry affiliated interviewees in Vancouver Island was the incomplete or out of date information used to develop visual quality objectives in certain situations. This can ultimately affect the ways in which forest practices impact upon the scenic values of areas used for nature-based tourism. Some deficiencies within the visual quality framework were also acknowledged by one of the forest industry affiliated participants who stated:

I think there is room to improve them (visual quality objectives) to be sure from a bunch of vantage points. How exactly and fitting them into the existing budget regime is another question. But just in terms of what I would call an academic assessment of it, rather than sort of an operational implementation assessment of it I do see some weaknesses potentially (VI 17).

Although tourism can be negatively affected by the presence of the forest industry, tourism also has the ability to negatively impact upon forestry. This was addressed by one of the forestry affiliated interview participants in Vancouver Island. Because of the considerations that must be made to the tourism industry, it restricts the degree of access that forestry has to timber in many areas. This can lead to a reduction in cost efficiencies ultimately affecting the profitability of logging companies. In regards to this one forest industry affiliated interviewee explained:

A lot of the regulation was based around viewscapes, which is of course for tourists because there is no one else here. The people who live here are fine with it. So we started seeing smaller clear-cuts. Places where we couldn't log period. Less efficient logging so it affects us on a cost basis (VI 8).

### 6.2.4 Conflict Solutions in Vancouver Island

Despite the many ways in which the tourism and forest industries come into conflict with one another in Vancouver Island, there are currently measures in place to help reduce these types of conflicts. When speaking about the evolution of forestry practices in past decades one of the forestry affiliated interviewees said:

If you compare us to where we were 20 or 25 years ago we had really large clear-cuts and scenic area management was not a big consideration. We have come a long ways. And that was in part recognizing that there were public recreation interests and concerns about the health of the environment and biodiversity and tourism values and so on. (VI 11).

The *Forest Range and Practices Act* identifies scenery as one of eleven forest values to be managed and includes provisions for visual quality objectives. Although the system is not perfect and received some criticism from interview participants, it can still be credited with the preservation of certain viewscapes that have been maintained throughout many areas of Vancouver Island. In order to comply with the legal framework, forest companies that operate in visually sensitive areas are often required to dedicate a significant amount of time and resources to help ensure developments are planned in a way that reduces the visual impact that they might have on an area. When speaking about this one forestry affiliated interviewee explained:

There is a legal framework in the province that manages visual quality objectives and we put a lot of effort into testing ahead of time, testing what we think our harvesting is going to look like (VI 9).

As well as managing viewscapes, significant effort has been made towards improving communication and consultation with tourism operators and other stakeholders. The purpose of this is to help address potential concerns about forest industry impacts in certain areas. To ensure that this occurs certain legal requirements are in place. For example, forest companies are required to publish ads in local newspapers when a forest stewardship plan is either created or amended so that they can receive feedback from stakeholders. This was explained by one forestry affiliated interviewee who stated:

When we advertise our forest stewardship plan or if we make certain types of amendments to our plan the current legislative framework requires us to publish ads in the newspaper. It requires us to figure out who else operates on the land base... So we need to figure out who holds tenures in the area and get ahold of them to let them know that we are either writing a plan, or advertising a plan, or amending a plan and we would like their input (VI 9).

Although not exactly a legal tool, a voluntary agreement was signed in 1996 between the Council of Forest Industries, Forest Alliance of British Columbia and the Council of Tourism Associations of British Columbia. This single page document is known as the *Statement of Mutual Recognition and Respect* and reaffirms the notion that both industries recognize the other as important. Although it did not feature heavily in the interview process, it was touched on briefly by two of the tourism industry affiliated participants.

In addition to legal tools, a number of forest companies take certain voluntary steps to communicate their plans to other stakeholders. This is encouraged by the British Columbia Ministry of Forests, Lands and Natural Resource Operations. When addressing this one of the interviewees stated:

We are trying to encourage licensees to develop relationships with tourism operators. And there is a role for us in facilitating that. Over the last couple of years we have had a couple of workshops with licensees talking about their management practices in various areas. We encourage them to be proactive and build relationships with tourism operators and members of the public (VI 11).

Along with the measures already in place, a number of suggestions were put forward with regard to additional ways that conflicts between forestry and tourism could potentially be reduced. Two interview participants thought that some of the criticism the forest industry receives could be partly related to a lack of public understanding about many aspects of the industry. It was suggested that initiatives to improve public understanding could result in a

higher degree of acceptance towards forestry activities. When speaking about this one of the forestry affiliated interviewees explained:

I would like to see the general public and tourists understand the business better. To not just create their opinion based on what they see or what they read or what they hear in newspapers. I would like them to educate themselves so that they better understand the benefits and renewability of it. And what they use every day from the forest products industry that they don't know about. It's not just paper and wood. Plastics, tires, everything. If they understood that, I think it would be a little better (VI 8).

Despite the current measures that are in place to help encourage communication and consultation between the tourism and forest industries, some interviewees suggested that further improvements still need to be made in this area. Better communication between the two industries and a more proactive approach to management were identified as possible ways to improve the relationship between forestry and tourism.

I think more frequent dialogue would be beneficial and a more proactive approach would be beneficial. It is better than it was, but it is still not perfect. So, and this is just my opinion, if the forest industry and the Tourism Industry Association of BC were more frequently communicating with each other and proactively looking at what the future looks like as far as forest development and tourism development and how they impact each other that would definitely improve things from where they are now (VI 6).

In addition to a more proactive approach to management, a suggestion was also made to increase forest companies degree of responsibility when engaging with other licensees. In the opinion of some interview participants the degree to which this occurs can vary considerably depending of the forest licensee. Certain aspects of the *Forest Range and Practices Act* were identified as causing this. For example, one tourism affiliated interviewee suggested that this piece of legislation was introduced to give the forest companies more flexibility, decrease the size of the forest management organization and give the forest industry a higher degree of self-regulation. This participant also expressed concern that fewer mechanisms are now in place to ensure that the concerns of stakeholders are addressed (VI 13).

It was also suggested that the identification and special management of high value tourism areas could provide significant benefits to the tourism industry in Vancouver Island. Under the old *Forest Practices Act* the *Recreation Features Inventory* was established to provide information about recreational features to resource managers in order to assist them when making land-use decisions. However, the most recent version of this document is over fifteen year's old (British Columbia Ministry of Forests, 1998a) leaving questions about its current relevance. Ideally these areas would not require exclusion of the forest industry. Instead forest management practices would consider the tourism industry first, as opposed to what currently occurs in most parts of the province which is currently zoned for forestry. When speaking about this one of the tourism affiliated interviewees stated:

There are places in British Columbia, especially along coastal BC, that are really exemplary. They are totally amazing places... So we need to identify places of great tourism value like this... And we need to say, 'these have such incredible tourism values that we need be careful what we do here.' Many of them already have tourism sectors that are active... Just give the industry something to work with and we can do amazing things. That minimal consideration, that minimal foresight on recognizing the exceptional places is just not happening at all (VI 13).

Although visual quality objectives have been responsible for the preservation of many visually sensitive areas throughout all of British Columbia, there were multiple interviewee's who suggested that these could be improved in some areas of Vancouver Island. Despite the budgetary constraints that were identified as a barrier to this, it seems likely that benefits to the tourism industry could potentially make this worthwhile. This is especially true for areas that have been identified as having significant tourism value.

Some interviewee's indicated that addressing certain issues relating to organizational structure could help to improve land management outcomes that would provide benefits to the tourism industry. One tourism affiliated interviewee expressed the viewpoint that the organizational structure of government departments within British Columbia does not represent tourism interests very well. When speaking about this they stated:

It feels like nobody is speaking for tourism. You know there is a Ministry of Forests, Lands and Natural Resources and there is a Ministry of Tourism, Jobs and Innovation, but that 'jobs' also includes forestry jobs. You know there are district forest managers, there is all the different levels of forestry, but there does not seem to be adequate representation for the needs of tourism (VI 3).

Certain tourism affiliated interviewee's expressed the opinion that a paradigm shift in terms of forest management needs to be considered in British Columbia. It has already been argued that the current legislative and management framework is skewed towards the needs of forestry in many ways. This ignores the fact that tourism is one of the most significant drivers of the British Columbia economy and much of that can be attributed to its promotion of the natural environment. When discussing this one tourism affiliated interviewee explained:

The larger structural thing, where the balance between tourism and industry issues needs to be a bit more equitable is where we need to go in the long term. So, recognizing that wilderness tourism is a significant driver of the economy on the coast. In certain high value areas it should be a priority to value tourism over extractive uses because it is more sustainable over the long term (VI 4).

## 6.2.5 Conflict Solutions in Tasmania

Like Vancouver Island forestry has the potential to impact the tourism industry in Tasmania. In fact, serious tourism and forest industry conflicts that would get played out in the media were not uncommon in previous years. According to one of the forestry affiliated interviewees:

Before 2003 the two industries and the participants within each of the industries were at loggerheads. We were slagging off at each other regularly in the media. We would do a fuel reduction burn or regeneration burn and the tourism industry would immediately issue media releases saying that it was destroying the tourism industry in Tasmania (TA 19).

According to interview participants, the two industries eventually realized that this conflict was producing negative results for both sides. This ultimately convinced them to cooperate and find

a solution to the problems that they were causing for one another. As a result of this collaborative effort the first version of the *Tourism and Forestry Protocol Agreement* was signed between the Tourism Industry Council of Tasmania, Forestry Tasmania, Private Forests of Tasmania and the Forest Industries Association of Tasmania in 2003. The purpose of the document was to provide a framework for the tourism and forestry industries to work together and has since been refined with the 2009 version (TICT et al., 2009).

The *Tourism and Forestry Protocol Agreement* featured heavily in the semi-structured interviews that were conducted with both tourism and forestry affiliated participants. There are a number of features within the document that help contribute to its effectiveness. Many of these were identified by interview participants. The document contains a statement of guiding principles with the first being recognition that both industries are important for the growth of the Tasmanian economy (TICT et al., 2009). The importance of this idea was reinforced by one forestry affiliated interviewee who stated:

So what we have tried to do in the protocol agreement is recognize that both industries are important for Tasmania's economy. There are effectively five pillars of the Tasmanian economy, which are the main wealth creators for the state. Tourism is one of those and forestry is one of those. If any one of those falls the house of cards starts to implode somewhat. So what we have tried to do is recognize that both are important and try to find ways to work together and work in harmony with each other so that we don't destroy each other's brands (TA 19).

The document also sets out guidelines for meetings, stakeholder communications, issue resolution and media briefings. These features have led to the development of a relationship that is based upon regular communication, which did not exist before the agreement was signed. However, it was noted that the agreement is essentially little more than a few pieces of paper with some words on it. One of the more important features of its success seems to be the willingness of all parties to make it work. Interviewees from both industries expressed a genuine commitment to maintaining a positive relationship between forestry and tourism in Tasmania. As stated by one forestry affiliated interview participant:

The key thing is the willingness of both parties to make it work. Even though they are just words, they are words with a genuine intent behind them and that is what we have been guided by. Every time we have sat down to try and consider and issue we have always gone back to, not the written words in the protocol, but the intent behind why we went into the actual protocol... and used those to guide us (TA 19).

The commitment to maintaining a positive relationship becomes evident when learning about the precautions taken by the forest industry in Tasmania to ensure that it does not negatively impact upon tourism. For example, each year Forestry Tasmania requests a list of special events that are scheduled to occur during the summer season throughout the state. The purpose of this is to assist with the planning of burn programs. Forestry Tasmania uses this information to help ensure that these programs do not have a negative impact upon any of the major festivals that are held annually throughout Tasmania. Their commitment to ensuring burning programs do not negatively impact upon events and communities was expressed by one forestry affiliated interviewee who stated:

There have been times when unpredicted weather conditions have happened and we called off burns. We have been all set up, crew is ready to go, sitting there but the smoke is going the wrong direction. So we will call it off and go somewhere else (TA 17).

In addition to burning programs, the introduction of the *Tourism and Forestry Protocol Agreement* has also produced positive results in regards to the visual impact that harvesting operations can potentially have on tourism. When discussing their considerations for nearby tourism stakeholders one of the forestry affiliated interview participants explained:

Visual management, particularly view field management. And largely as a result of the protocol, not just Forestry Tasmania, but private forest companies do a lot of very detailed view field management activities before and during the planning and undertaking of forestry operations... So you identify the points most likely to have a view over the operational area and you redesign your coupe boundaries, your harvesting activity and the intensity of the operations to minimize the impact on the environment (TA 19).

Individuals from both industries praised the effectiveness of the *Tourism and Forestry Protocol Agreement* in cultivating a constructive relationship between forestry and tourism in Tasmania. Since the original agreement was signed both sides have agreed to approach each other to work out their issues, rather than release statements in the media. This has ultimately had a positive impact upon the brand of both industries because fewer conflicts are now present. The effectiveness of the agreement in reducing conflict situations was explained by one forestry affiliated interviewee who stated:

In those first few years after signing the agreement I think we had four or five issues being brought to our monthly meetings by the tourism industry almost exclusively saying, 'these are major issues of concern for us that need to be resolved.' Now we get nothing (TA 19).

The introduction of the *Forest Practices Act 1985* has helped to ensure that a range of forest values in addition to timber production are considered by decision makers (McDermott, Cashore & Kanowski, 2007). It was suggested that the introduction of this legislation has played a role in the protection of tourism values, which ultimately has helped to reduce conflict between the tourism and forestry industries in Tasmania. When speaking about it this individual stated:

At some point there was a turnaround. It was probably largely came about because of the Forest Practices Act I think. In terms of having to take on board a whole range of different values, including landscape values, which are inherently tied to tourism issues. I think that process within the forest industry made people realize that there were aspects where forestry could impact on tourism issues. In terms of particularly the landscape side of things, but also the log truck issue which has always been a bit of an issue in the background (TA 4).

It could also be argued that Forestry Tasmania's pursuit of tourism developments help to reduce conflicts between the tourism and forestry industries. The role that the organization has played in regional tourism development has helped to rejuvenate certain communities within Tasmania. This is particularly true for the Huon Valley. With the Tahune Airwalk becoming such an important attraction in the region, many tourism operators are very appreciative of the extra

visitors that this development has attracted. This ultimately has a positive impact upon the relationship between forestry and tourism in this area of the state.

Along with the positive economic impact that Forestry Tasmania tourism developments have had on certain communities, the interpretation that they offer at many of these sites could also be seen as having a benefit to both the tourism and forest industries. Forestry Tasmania tourism sites offer interpretation covering a range of topics from native species to forest practices. According to certain interview respondents, perceptions of the forest industry may have a bigger impact upon tourism than the actual forest practices themselves. Assuming that this is at least partly true, it seems that providing visitors with information about measures taken by the forest industry to address sustainability issues could provide benefits to both forestry and tourism.

In addition to measures that are already in place the semi-structured interview process also revealed ways in which the potential conflicts between forestry and tourism could be further reduced. Despite the ways in which the *Tourism and Forestry Protocol Agreement* has improved the situation in Tasmania, one interview participant suggested that its success has reduced the amount of communication that has happened recently. This individual explained the importance of maintaining the communication channels that the agreement has helped to create.

I guess the criticism that I have got of the current agreement is one that maybe it, in conjunction with the 2003 agreement has been too successful. Both groups now are not paying the time and attention to it that we were previously. There are not the issues. Unfortunately, we all get stuck dealing with wheels that need oil because they are squeaky, so you deal with them. So that has not been the tourism industry's relationship with the forest industry. Of course the danger of that is that it slips back to where it was. And that is not a good thing (TA 19).

Certain interview participants also expressed a desire to see further improvements to the sustainability of forest practices in Tasmania. Many expressed their disapproval with past and current management practices. Issues raised include Tasmania's past reliance on wood chipping, development of non-native pine plantations, harvesting of old growth forests and lack

of investment into the specialty timber market. Certain interviewees also expressed a desire to see Tasmania adopt more selective logging practices that utilize a more diverse range of species and create less waste. When considering these comments it is important to note that the Tasmanian forest industry is currently in a period of transition, which will likely lead to many of the practices identified as undesirable being either reduced in scale or eliminated all together. However, the strong disapproval of certain forest practices is still evident amongst many members of the public. Some of these ideas were captured by one of the tourism affiliated interviewees who said:

Selectively harvest. Supply the small saw millers and do the fine quality furniture and instruments, like guitars and violins and boatbuilding. That could all still be happening. The reason that we are in trouble now with our forest industry is because of the waste and mismanagement with clearfelling and wood chipping (TA 14).

Despite the measures taken by Forestry Tasmania to educate visitors and the public about their forest management practices, some interviewees believed that this could be done on an even greater scale. Although the industry has tried to gain wider acceptance in Tasmania and Australia as a whole, many would argue that forestry in the state still suffers from a negative public image because of high profile conflicts that have occurred in the past. This could potentially have direct implications on the domestic tourism market, which is particularly important to Tasmania. To improve perceptions amongst both visitors and locals certain interviewees suggested the expansion of forest industry tourism attractions to help address this. One tourism affiliated interviewee suggested:

What would be best I think would be public relations and getting people into the forests and seeing what they have done. Maybe selling their timber as high-value timber and promoting it that way. And then maybe encourage the timber that they are extracting to be used in a more special way, rather than just wood chips. Increasing people's understanding and therefore value of the product that they are pulling out might help tourism (TA 1).

### 6.2.6 Tourism and Forestry Relationship in Vancouver Island

After discussing some of the tourism and forest industry conflicts and solutions in Vancouver Island, interviewees were asked to characterize the relationship between the two industries. As expected, responses seemed to be dependent upon the individual situation of the interviewee. For example, certain tourism affiliated interviewees characterized the relationship as negative, whereas others viewed the relationship as positive. Additionally, some forestry affiliated interviewee's indicated that the relationship varies depending on the project that is being proposed and who they happen to be dealing with. Some factors that seemed to influence responses to this question include geographic area and industry affiliation. However, there are likely many other personal factors that are likely to influence the perception that interviewees have about the relationship between the two industries.

Positive attitudes about the relationship between forestry and tourism were expressed by both forestry and tourism industry affiliated interview participants. One tourism affiliated participant suggested that the nature of their business likely contributed to the positive perceptions that they had about this relationship. This individual thought that their reliance on forestry workers for revenue, combined with the fact that most of their customer's were not traditional nature-based tourists played a role in shaping this view. Others remarked upon improvements that have been made over recent decades. For example, one tourism affiliated interviewee stated:

Certainly there has been a better relationship in the last 10 to 20 years of forestry and tourism in terms of communicating with each other and trying to work more closely with each other to ensure that the forestry industry can do what they need to do, but limit the impact that they can have on those things I mentioned like viewscapes (VI 6).

Despite the positive remarks, both tourism and forestry affiliated interview participants also had some negative comments with regard to the relationship that exists between the two industries. One tourism affiliated interviewee pointed to the fundamentally different needs of the two industries and the difficulty associated with finding a compromise. This individual stated:

Everyone tried to start out on a positive note, but ultimately it boils down to a negative relationship because we are at such odds for what we want from the forest resources. Ultimately it boils down to trees standing or not. Coming from such divergent

perspectives, no matter how much communicating and talking you are doing, you want different things in the end (VI 3).

This interviewee went on to talk about the frustration and the feeling of hopelessness that they felt over the power that forest companies seem to have over the natural resource decisions being made in Vancouver Island.

That leads to lots of frustration in industries such as tourism because of the feeling of hopelessness and powerlessness due to current legislation and past rulings. You know there is not a lot of hope for you if a forestry company is not legislated to sit down and talk to be more specific in their areas or cuts, or make revisions to plans based on your feedback. A lot of it is fairly voluntary and it is not getting the results needed for industries such as tourism (VI 3).

Because there are so many different factors that influence the relationship between forestry and tourism, it is impossible to characterize it as being either positive or negative. The diverging responses from both tourism and forestry affiliated interview participants are evidence of this. However, it is important to recognize that that this relationship is not perfect and there are many ways in which it could potentially be improved. Considering some of the issues raised in the previous sections could likely provide clues about ways in which this can be achieved.

### 6.2.7 Tourism and Forestry Relationship in Tasmania

Like the Vancouver Island interview participants, those in Tasmania were also asked to characterize the relationship between forestry and tourism in the state. As expected certain participants characterized it as negative, some characterized it as neutral, while others suggested that it was positive. Certain interviewees also suggested that the relationship tends to vary depending on the issue and which individuals happen to be involved.

A surprisingly high number of interview participants from both tourism and forestry characterized the relationship between the two industries as positive. A variety of reasons were cited for this.
Some of these include the additional business that the industry creates, steps that have been taken to consult with tourism stakeholders and also the recent reduction in forestry activity that goes on throughout Tasmania caused by the economic issues that the industry is currently facing.

Few interview participants characterized the overall relationship between the two industries as negative. However, one of the individuals who did suggested that tourism does not get the consideration that it deserves in certain regions of Tasmania. Despite the efforts that have been made to develop a constructive relationship between forestry and tourism in Tasmania, this individual expressed concern about nature-based tourism operators in regions of the state that are primarily dedicated to the extraction of natural resources. When speaking about consultation between the two industries one of the tourism affiliated interviewees remarked:

It doesn't happen around here, because it's all been earmarked for logging and that is the end of the story. That is not going to change... You can go and see and talk to them, but they don't listen to me. They are just going to do what they want to do anyways (TA 3).

One of the more interesting findings in terms of the relationship between tourism and forestry in Tasmania is the degree to which interview participants spoke about improvements in recent years. Those who spoke about a negative relationship seemed more likely to refer to past issues, as opposed to those that are currently presenting problems. Some of these individuals went on to discuss how past sources of conflict have become less of an issue in recent years. Although part of the improvements may be related to the current reduction in forestry activity, it also speaks to the effectiveness that certain conflict reduction measures have had in Tasmania in terms of improving the relationship between the two industries. When speaking about this one of the forestry affiliated interview participants stated:

15 years ago the relationship was probably not that good with a lot of individual, sort of one to one tourism operator stuff. And that was a bit negative. Usually you only get to hear about the things that are bad. But I have got to say, there really have not been any of those sorts of issues (TA 4).

Not only was this feeling expressed by individuals within forestry, but those affiliated with the tourism industry also remarked on the vast improvements that have been made in recent years. For example, one tourism affiliated interviewee stated:

The only thing that I would like to highlight again is that it is much better than it used to be. If you were talking to me four years ago there would have been anger. It was just getting out of control. The amount of logging trucks, everywhere was getting closed. I was getting e-mails two to three times a day saying, 'you can't go into here, you can't go into there.' I don't get any now. It was like a tree grab that was happening, but that is not happening anymore (TA 7).

# 6.3 Summary

Table 69 compares the main conflict issues and solutions identified by interview participants in both Vancouver Island and Tasmania.

Conflict Issues and Solutions Identified by Interview Participants		Tasmania	Vancouver Island
Forestry benefits tourism	Additional access to forests.	х	х
	Business from forestry (e.g. food & accommodation).	Х	Х
	Regional development initiatives.	<b>X</b> <sup>1</sup>	
Forestry negatively affects tourism	Visual impacts.	х	Х
	Restricted access to certain areas.	Х	Х
	Smoke from burning programs.	Х	
	Visitor perceptions.	Х	
	Traffic congestion & safety.	Х	Х
Tourism negatively affects forestry	Access to forest resources.	х	Х
	Burning program restrictions.	Х	
	Traffic congestion & safety.	Х	Х
Conflict solutions in practice	Formal tourism & forest industry agreements.	X <sup>2</sup>	
	Legislative tools.	<b>X</b> <sup>3</sup>	$\mathbf{X}^4$
	Forest industry regional development initiatives.	<b>X</b> <sup>1</sup>	
	Forest industry public education programs.	<b>X</b> <sup>5</sup>	

Table 69. Conflict issues and solutions identified by interview participants.

<sup>1</sup> Forestry Tasmania tourism developments

<sup>2</sup> Tourism and Forestry Protocol Agreement <sup>3</sup> Tasmania Forest Practices Act

<sup>4</sup> Visual Quality Objectives

<sup>5</sup> Interpretation at Forestry Tasmania tourism sites

Because both case study locations are nature-based tourism destinations that also rely on forestry, one might expect that similar issues exist in Tasmania and Vancouver Island. Although this was the case, many differences were also revealed through the semi-structured interview process. Like Vancouver Island respondents, those from Tasmania mentioned that the forest industry plays an important role in providing access to remote areas. This access often provides additional opportunities to those who work in the tourism industry. Forestry can also provide additional revenue in remote areas for certain types of businesses like accommodation and food establishments. Although these types of businesses also cater to individuals that do not fit the prototypical definition of tourists (e.g. business travelers), a significant proportion of their

revenue does come from actual tourists. Additionally, much of the revenue generated by these types of businesses tends considered when placing value on the tourism industry in economic reports (Tourism British Columbia, 2012; Nichol, Shi & Campi, 2013)

A significant difference between the two destinations is the amount of investment that the Tasmania forest industry has put towards the development of tourism attractions. Although some small-scale sites have been created by the forest industry in Vancouver Island, they do not compare in scope to the ones that Forestry Tasmania has developed. The creation of these sites provides visitors with information about various aspects of Tasmanian forests, including some of the ways in which they are managed. Additionally, some of these sites have played an important role in the rejuvenating the local economy in certain areas.

As expected, visual impacts were mentioned as a way in which forestry negatively affects the nature-based tourism industry in both destinations. Interview participants from both study regions expressed concern over the potential impact that clear-cuts can have on scenic values. Due to the nature of the tourism industry in destinations that promote the natural environment, this is likely to be an issue in other places that rely on both forestry and nature-based tourism to create employment. Therefore, a reduction in the visibility of these areas could produce positive results for tourism. Traffic issues relating to tourist traffic and logging trucks were also named by interviewees in both regions.

One aspect of forest management that was a potential issue in Tasmania, but of little concern in Vancouver Island relates to burning programs. In many areas of Tasmania forests must be burned to maintain the health of Eucalypt forests. This is generally not required for the management of forest communities in Vancouver Island. Because of this, forest managers in Tasmania must consider the potential impact that these programs could have on surrounding communities. This is generally less of a concern for those that are responsible for the management of Vancouver Island forests.

The ways in which the relationship between tourism and forestry is managed was also shown to differ between the two destinations. According to interview participants, vast improvements have been made in both places in terms of the consideration that now given to nature-based tourism by forestry. However, different approaches have been taken to achieve this. A number of legislative tools are used to manage the relationships between the two industries in Vancouver Island. These include visual quality objectives and various requirements within the *Forest Range and Practices Act.* While certain legal tools are also used to manage the relationship between forestry and tourism in Tasmania, it appears that the *Tourism and Forestry Protocol Agreement* has created a climate where tourism and forestry actually share a close working relationship in which mutual consultation has become the norm. This seems less evident in Vancouver Island. By introducing similar industry agreements within British Columbia it is possible that this could help to address some of the conflicts that currently exist between the two industries in Vancouver Island.

# Chapter 7 Discussion & Conclusion

# 7.1 Introduction

This chapter synthesizes the results that have been presented in the previous three chapters in relation to the literature that has been reviewed. This will be discussed in the context of the three primary research questions that were presented in the first chapter. In addition to this, the theoretical and practical implications of this research will be explored.

# 7.2 Impact of Forestry on Tourist Perceptions

The first research question asked what type of impact forestry can have on the perception of tourists in region that market the natural environment and outdoor activities that take place in these settings. The working hypothesis suggested that forestry has a negative impact upon tourism in these types of destinations. This hypothesis was based upon past studies that have demonstrated displeasure with the visual impacts associated with forestry amongst the public (Picard & Sheppard, 2001) and with tourists (British Columbia Ministry of Forests, 2003). Therefore, the questionnaire contained questions intended to measure the forest industry's potential impact on visitor perceptions.

#### 7.2.1 Destination Image

The top five destination image items for Vancouver Island survey participants include natural scenery, parks/protected areas, hiking, unique/rare animals and camping. The highest ranked items for Tasmania participants were natural scenery, parks/protected areas, unique/rare animals, hiking and unique/rare plants. This suggests that the natural environment and outdoor activities were important determinants of destination image for survey participants in both Vancouver Island and Tasmania. According to tourist gaze theory, visitors tend to define a locality in relation to the degree that expectations have been met and desires have been fulfilled (Janes, 2008). This is similar to destination image theory which suggests that pre-visit destination image shapes expectations, ultimately affecting the final evaluation of a destination. When visitors feel that their experience did not match expectations it is most likely to result in a negative evaluation (Beerli & Martin, 2004a). Because survey respondents in both case study destinations were attracted by elements associated with the natural environment and outdoor activities it seems logical they would have expectations of scenic landscapes. Those that do not meet expectations could potentially negatively impact upon visitor evaluations of the destination.

# 7.2.2 Environmental Values

The way in which individuals judge the appropriateness of natural resource management decisions is partly determined by their environmental values (Wagner et al., 1998; Ford et. al., 2005). Therefore, the survey instrument contained a question with a set of items assessing this construct. Overall, scores seemed to indicate that a high proportion of research participants could be categorized as being on the pro-environment side of the spectrum. Additionally, very little difference was noted between Vancouver Island participants and those from Tasmania.

# 7.2.3 Nature-based Tourism Setting Preferences

Past research has found that relationships exist between quality of recreational experience and the settings in which they occur (Floyd & Gramman, 1997; Hunt et al., 2000). Preference for certain settings was assessed using the nature-based tourism setting preference scale. The mean score from Vancouver Island participants was 3.54, while the mean score for Tasmania survey respondents was 3.71. With the mid-point of the index being 3, results appear to suggest that visitors surveyed in both regions prefer nature-based tourism settings that do not contain obvious evidence of forestry. Based upon this, one might expect that the observation of

forest industry impacts could negatively impact upon the experience of visitors to both Tasmania and Vancouver Island. However, it is important to note the variation in scores between individual participants. Because the range in scores was 3.58 (range of 1.42 - 5.00) for Vancouver Island visitors and 2.75 (range of 2.25 - 5.00) for visitors to Tasmania it suggests that certain respondents in both destinations are sensitive to forest industry impacts in naturebased tourism settings, while others seemed much more accepting of forestry impacts.

#### 7.2.4 Forestry Impact on Visitor Perceptions

It seems likely that the type of impact observed could influence the degree to which tourist perceptions are influenced by the industry. This is supported by Ribe (2004) who suggested that the public prefers landscapes that exhibit intact patterns of forest cover, as opposed to the obvious openings that are seen when clear cutting is employed. Sheppard & Picard (2001) have also stated that people tend to prefer natural appearing conditions, as opposed to highly modified landscapes. Results from both case study locations appear to support past research suggesting that less obvious visual impacts are preferred by the public. Amongst Vancouver Island participants 54.1% indicated that observing harvested areas negatively impacted upon their perception of Vancouver Island as a tourist destination. This is in sharp contrast to the 11.5% of respondents who said that observing tree plantations had a negative impact on their perception. Similar results were found in Tasmania with 46.1% of those surveyed indicating that harvested areas negatively impacted upon their perceptions had this effect. Despite the differences in percentages between Tasmania and Vancouver Island, it is clear that landscapes with intact patterns of forest cover (tree plantations) were preferred to those that exhibited obvious openings (clear cuts) in both places.

Although their impact on the landscape is much smaller than harvested areas and tree plantations, logging trucks and saw/pulp mills are also commonly encountered by the public in both case study regions. Therefore, questionnaire participants were asked about the type of impact these had upon their perceptions of Vancouver Island and Tasmania as tourist destinations. In both places encounters with logging trucks and mills were more likely to result in negative perceptions when compared to encounters with tree plantations. However, encounters with logging trucks and mills were less likely to result in negative perceptions for the Vancouver Island sample group, when compared to harvested areas. This was different than the Tasmania

sample group who were more likely to rate mills and tree plantations either worse than, or similar to harvested areas. It is unclear exactly why these differences exist. Although it could be partly attributed to recent high profile forest industry conflicts in Tasmania, where media attention has been given to logging traffic and the proposal of a pulp mill for the Tamar Valley.

# 7.2.5 Observation of Forestry Impacts

Results suggest that different types of forest industry impacts influence visitor perceptions in different ways. Over half of respondents in Vancouver Island indicated that observation of harvested areas negatively impacted on their experience. According to results nearly 80% of survey participants in Vancouver Island observed harvested areas. This suggests that reducing the visibility of harvested areas in Vancouver Island could produce positive results for the tourism industry. Harvested areas also produced a negative response from visitors in Tasmania with nearly half of respondents suggesting that they negatively impacted upon their perceptions. According to results harvested areas are less visible to tourists visiting Tasmania with fewer than 65% of respondents reporting that they had observed this type of impact during their trip. Despite these findings, tree plantations were much more visible to visitors in Tasmania than Vancouver Island. However, less than 20% of respondents in both case study destinations reported that this type of impact negatively affected upon their perceptions.

# 7.2.6 Summary

Results from both cases seem to indicate that forestry does have the potential to negatively impact upon tourism in destinations that promote the natural environment and outdoor activities that take place in these settings. Based upon the nature-based tourism setting preference scale both the Vancouver Island and Tasmania sample groups exhibited a certain degree of sensitivity towards forest industry impacts. However, it should be noted that those who are particularly sensitive to forestry impacts are unlikely to have their perceptions affected if they do not encounter any evidence of the forest industry during their visit. Therefore, it seems plausible that effective visual management techniques could reduce the likelihood that visitors who prefer nature-based tourism settings without obvious forestry impacts will have their perceptions negatively affected.

Results also appear to suggest that the type of forest industry impact observed determines the degree to which visitor perceptions are affected. For harvested areas 45.9% of visitors to Tasmania and 53.7% of visitors to Vancouver Island indicated that this type of impact negatively affected their perceptions. This is in contrast to the 18.4% of visitors to Tasmania and 11.6% of visitors to Vancouver Island who indicated that tree plantations had a negative impact upon their perceptions. Based upon these results it seems that encounters with plantations are much less likely to negatively impact upon visitor perceptions than encounters with harvested areas.

The presence of logging trucks and saw/pulp mills also appears to impact upon visitor perceptions in both Tasmania and Vancouver Island. However, the extent to which this is true was shown to differ between the two case study regions. Visitors to Tasmania seemed to be much more critical of logging trucks and mills than visitors to Vancouver Island with 45.3% of participants in Tasmania indicating that logging trucks negatively impact upon their perceptions. Only 35.3% of respondents in Vancouver Island indicated the same. Likewise, 62.8% of participants in Tasmania indicated that saw/pulp mills negatively impacted upon their experience, whereas only 36% of Vancouver Island respondents indicated this. Although there is no certain way to explain these variations, it could be partly attributed to differences in the political climate surrounding the forest industry in each region.

# 7.3 Impact of Forestry on Different Tourist Segments

The second research question asked whether or not certain tourist segments are affected differently by the impacts of forestry in regions that market the natural environment and outdoor activities that take place in these settings. The working hypothesis suggested it is likely that certain tourism segments would be affected differently than others when encountering forest industry impacts. This was based upon research demonstrating that personal characteristics have been shown to influence how individuals form tourist expectations and preferences (Beerli & Martin, 2004a), as well as perceive environmental quality (Petrosillo et al., 2007). Therefore, it seems logical that these differences in personal characteristics would influence questionnaire responses to questions asking about visitor perceptions. Responses to questions measuring the forest industry's impact upon tourist perceptions were compared between sample groups to learn whether or not this is true. However, it is important to note the small sample size from the

Central Highlands fishing group. Although this limits the reliability of findings from this sample group, the others received sufficient responses to draw reliable conclusions.

# 7.3.1 Destination Image

There were a few differences in the highest ranked destination image items between the three sample groups in both destinations. For example, fishing was ranked first for both sport-fishing groups, yet ranked very low for the other sample groups (i.e. back-country hiking, front-country visitor centre). Similarly, hiking ranked low for the sport fishing groups, but quite high for members of the other sample groups. Despite the differences found between groups, elements associated with the natural environment and outdoor activities featured high for all three sample groups in both case study destinations. This suggests that a large proportion of survey participants were attracted by elements associated with the natural environment, regardless of their sample group. Details about the differences in importance given to each of the destination image items for the three sample groups in both case study destinations about the differences are study destinations can be seen in Table 11 and Table 44.

# 7.3.2 Environmental Values

Mean scores from Winter Harbour fishing guests were significantly lower than the other two sample groups. This suggests that these individuals have more of a anthropocentric worldview when compared to the other two sample groups, who exhibited more of an environmentalist set of values. Overall, mean scores from survey respondents in Tasmania were fairly similar to those from Vancouver Island. No significant differences were found between the three sample groups with the sport-fishing group having similar scores to the other three sample groups. However, it is important to note the small sample size from the Central Highlands Fishing group. It is possible that a larger sample would have produced more significant differences. Differences in new ecological paradigm score for the three sample groups in both case study regions is shown in Table 26 and Table 59.

# 7.3.3 Nature-based Tourism Setting Preferences

Comparisons between sample groups were made for the question assessing nature-based tourism setting preferences. The purpose of this was to help understand possible differences

that may exist between user groups (back-country hikers, front-country visitor centre guests, recreational fishermen). Differences between the Vancouver Island sample groups revealed that Winter Harbour fishing guests were more accepting of forest industry impacts than West Coast Trail hikers and Kwisitis Visitor Centre guests. Analysis of questionnaire responses from the Tasmania participants also revealed differences between the sample groups. Mean scores from Overland Track walkers were shown to be significantly higher than those from of Cradle Mountain Visitor Centre guests.

In both cases back-country hikers received the highest scores on this particular scale meaning that they are least accepting of forest industry impacts when compared to the other sample groups. This was followed by the front-country visitor centre group and then the recreational fishermen. However, it is important to note that statistically significant differences were not found between each of the sample groups. All sample groups apart from the Winter Harbour fishing guests received mean scores that were above the mid-point of the nature-based tourism setting preference index. This seems to suggest that recreational fishermen visiting Winter Harbour are much less likely than the other sample groups to have their perceptions negatively affected by forestry impacts. This lends support to past research that suggests consumptive recreationists (e.g. hunters, sport fishermen) are more likely to tolerate harvested areas than other recreationists (Paquet & Belanger, 1997; Hunt, et al., 2000a). Unfortunately, the low sample size from the Central Highlands fishing group prevented similar conclusions from being made about recreational fishermen in the Central Highlands of Tasmania. Nature-based tourism setting preference scores for the three sample groups in both case study destinations can be seen in Table 18 and Table 51.

#### 7.3.4 Forestry Impact on Visitor Perceptions

Past research has demonstrated that differences exist in the ways that recreation user groups perceive landscapes (Brunson & Shelby, 1992). Therefore, it seems logical that exposure to forest industry impacts would affect visitor perceptions differently depending upon the tourist user group. To learn whether or not this is the case ratings given to each of the four forest industry impacts were compared according to sample group. Results from the Vancouver Island data give some support to the idea that exposure to forest industry impacts affects tourist user groups differently. When comparing ratings given to harvested areas mean scores for Winter

Harbour fishing guests were found to be significantly higher that of the other two sample groups. This suggests that this group is less likely to have their perceptions negatively affected by exposure to harvested areas. However, it should be noted that mean score for the Winter Harbour fishing group was still below the scale's mid-point of 3 meaning that a large number of Winter Harbour participants indicated that exposure to harvested areas negatively affected their perceptions of Vancouver Island as a tourist destination. In spite of this finding, no significant differences were found between sample groups when comparing ratings given to the other three impact types (i.e. tree plantations, logging trucks, saw/pulp mills).

Unlike the Vancouver Island data, results from Tasmania did not identify any differences in the way that user groups are affected by forest industry impacts. When comparing ratings given to each of the four impact types no statistically significant differences were found between any of the sample groups. However, it is important to consider the possible effect that the low sample size from the Central Highlands fishing group may have had upon this result. It is possible that a larger sample size for this group may have produced some statistically significant differences, like the recreation fishermen that were surveyed in Vancouver Island. Details about the differences in ratings given to each of the four forest industry impact types measured for the three sample groups in both case study destinations can is contained in Table 21 and Table 54.

There were not many differences in the ways that tourist user groups were impacted by exposure to forest industry impacts. Therefore, linear regression was employed to help reveal other predictors of ratings given to the four types of forest industry impacts measured. Vancouver Island results suggest that tourist nature-based tourism setting preference score and residency outside of British Columbia are predictors of ratings given to harvested areas. It appears that visitors are more likely to have their perceptions negatively affected by harvested areas if they receive a higher score on the nature-based tourism setting preference scale. Additionally, those visiting from outside of British Columbia seem more likely to give harvested areas a better rating when compared to residents of the province. The only predictor for the other three impact types was destination image score for urban attractions helped to predict ratings given to plantations and saw/pulp mills.

Results from Tasmania questionnaire respondents suggest that the most significant predictors of ratings given to the four impact types include nature-based tourism setting preference score, new ecological paradigm score and residency. Setting preference score was shown to be a predictor of ratings given to harvested areas, tree plantations and saw/pulp mills. As setting preference scores increased ratings given to these three types of forest impacts appeared to decrease. New ecological paradigm score was a predictor of ratings given to harvested areas, tree plantations and logging trucks. As new ecological paradigm scores increased ratings given to these three types of forest increased ratings given to these three types of areas. Finally, residency outside of Australia was associated with higher ratings given to harvested areas and logging trucks.

# 7.3.5 Observation of Forestry Impacts

Because they are both large geographic areas, regions within Vancouver Island and Tasmania are likely to differ in terms of the visibility of forest industry impacts. Therefore, visitors are likely to have different degrees of exposure to forestry impacts depending on the areas visited. To understand which visitors had the highest likelihood of encountering forest industry impacts comparisons were made between sample groups. It seems likely that tourists travelling along routes which expose visitors to certain forest industry impacts (e.g. harvested areas) would be more likely to have their perceptions negatively affected than those who are not exposed to similar impacts. Comparisons of forest industry impacts between the three sample groups in both Vancouver Island and Tasmania are shown in Table 19 and Table 52. In both Vancouver Island and Tasmania the likelihood of encountering forest industry impacts was highly dependent upon sample site. For example, Winter Harbour fishermen were much more likely to encounter harvested areas than visitors to the Kwisitis Visitor Centre. Additionally, Cradle Mountain Visitor Centre guests had a much higher likelihood of observing harvested areas than Overland Track walkers. This appears to suggest that the scale of forestry impacts present in both case study regions is quite variable and depends upon the area that has been visited.

#### 7.3.6 Visitor Experience

The survey contained questions designed to assess visitor satisfaction with their tourist experience. Past research suggests that the most negative evaluation of a destination is likely to occur in when a negative evaluation follows a positive pre-visit destination image (Jenkins,

1999). For this reason visitors were asked to indicate the degree to which their experience matched their expectations. Research has also identified links between satisfaction, intention to return and positive word of mouth communication (Kozak & Rimmington, 2000). Therefore, visitors were also asked about the likelihood that they would return in the future and recommend the destination to friends and family. Responses to these questions revealed that a majority of participants were quite satisfied with their trip, as very few differences were noted between sample groups in the two case study destinations. This is despite the negative ratings given to certain forest industry impacts that were observed by many respondents. These findings suggest that there are a number of additional variables apart from natural resource management practices that influence overall trip satisfaction.

#### 7.3.7 Summary

Results give a limited amount of support to the notion that tourist user groups are affected differently by exposure to forest industry impacts. Based on the nature-based tourism setting preference scale results Winter Harbour fishing guests appear much more accepting of forest industry impacts than West Coast Trail hikers and Kwisitis Visitor Centre guests. This seems to suggest that this group is less likely than the other two sample groups to have their perceptions negatively affected by forestry impacts. Results from the question asking about the degree to which perceptions were affected by forestry impacts supports this, with the Winter Harbour sample group rating harvested areas significantly higher than the other two sample groups when comparing ratings given the other three forest industry impact types included in the questionnaire.

When considering the results from Tasmania, nature-based tourism setting preference scores from Overland Track walkers were shown to be significantly higher than those from Cradle Mountain Visitor Centre guests. Based upon this, one would expect that Overland Track walkers would be more likely to have their perceptions negatively affected by exposure to forestry impacts. However, this is not supported by the results from the question asking about the degree to which perceptions were affected, as no statistically significant differences were found between groups for any of the four forest industry impact types. This could potentially be explained by differences between the sample groups in terms of their degree of exposure to

forest industry impacts, since Overland Track walkers were much less likely to encounter forest industry impacts than Cradle Mountain Visitor Centre guests.

In spite of the hypothesis suggesting that tourist user groups would be affected differently by exposure to forest industry impacts, results showed very limited support for this. The only significant difference in ratings given to forestry impacts was for harvested areas in Vancouver Island where the Winter Harbour fishing group rated these higher than the other two sample groups. Apart from this no statistically significant differences were found between groups for any of the other types of forest industry impact in either Vancouver Island and Tasmania. Therefore, linear regression was employed to help identify other predictors of ratings given to forestry impacts. Significant predictors for the Vancouver Island group include nature-based tourism setting preference score, destination image score and residency outside of British Columbia. Significant predictors for the Tasmania participants include nature-based tourism setting preference score, new ecological paradigm score and residency outside of Australia. Out of all the variables included in the regression models nature-based tourism setting preference score was the most prevalent predictor of scores given to forest industry impacts. This suggests that the scale is an effective way to predict the setting preferences of tourists who are exposed to forestry impacts in destinations that market the natural environment.

# 7.4 Theoretical Implications

Figure 4 provided a framework that illustrated how theory presented relates to the primary research objective of learning about the type of impact forestry can have on destination image in places that market the natural environment. The following sections will discuss the results in relation to this framework in an attempt to confirm the validity of the theoretical model that was proposed.

# 7.4.1 Destination Image

Pre-visit destination image is known to affect an individual's perception, consequent behavior and ultimately their destination choice (Gallarza et. al., 2001). According to the survey results a high proportion of respondents were influenced by destination features relating to the natural environment and outdoor activities. Although differences were noted between the two destinations and three sample groups, items relating to natural features and outdoor activities featured prominently for all. It is important to project an image that will be perceived to be accurate by visitors (Beerli & Martin, 2004a). This is because the most negative evaluation of a destination is likely to result from a positive pre-visit destination image, followed by an experience that does not meet expectations (Jenkins, 1999). This aspect of destination image theory was expressed in the original theoretical framework and can be seen in Figure 6. According to survey results, research participants associate natural features and outdoor activities with tourism in both Vancouver Island and Tasmania. Therefore, both destinations should try to ensure that landscapes match these expectations that appear to be held by a high proportion of visitors.





# 7.4.2 Visitor Perceptions

Past research has demonstrated that visual impacts have the ability to influence the ways that individuals perceive natural landscapes (Brown & Daniel, 1986; Bell, 1999; Sheppard, 2004). Natural appearing landscapes tend to be met with a higher degree of approval than those that exhibit obvious signs of human modification (Picard & Sheppard, 2001). This appears to be

supported by questionnaire results. A high proportion of survey participants from both Vancouver Island and Tasmania indicated that observing harvested areas negatively impacted upon their perceptions. However, very few respondents from either destination suggested the same about tree plantations. This is likely because plantations tend to be less visible in landscapes, when compared to harvested areas.

Tourists have been shown to be less accepting of modified landscapes than local residents (British Columbia Ministry of Forests & Range, 2006). This would suggest minimizing visitor exposure to obvious forest industry impacts in destinations that promote the natural environment could provide positive results for tourism. Despite this, harvested areas were visible to nearly 80% of survey participants in Vancouver Island. Although this type of impact was less visible in Tasmania, nearly 65% of respondents still reported observing harvested areas. Tree plantations were also shown to be quite visible in both destinations. However, plantations tend to appear less noticeable in the landscape, due the fact that they are more natural in appearance. Based upon past research and survey results, it seems as though management practices that minimize exposure to obvious forest industry impacts would provide benefits for the tourism industry in destinations that promote the natural environment.

Relationships exist between recreation setting preference and quality of experience (Floyd & Gramman, 1997). However, differences in setting preference have been shown to exist between tourist market segments (Paquet & Belanger, 1997; Hunt et. al., 2000). Although many similarities were shown to exist between sample groups in both destinations, a significant difference was noted when comparing Winter Harbour fishing guests with the other two Vancouver Island sample groups. These individuals were shown to be much less likely than the other two sample groups to have harvested areas negatively impact upon their perceptions. Results from the nature-based tourism setting preference scale also indicate that Winter Harbour fishing guests are much more accepting of forest industry impacts than the other two sample groups indicating differences in recreational setting preferences. Although these findings were not replicated with the Central Highlands fishing group, it is possible that the low sample size may have contributed to this. This idea was expressed in the original theoretical framework and is depicted in Figure 7.



Figure 7. Results suggest that management practices, landscape perception and setting preferences influence visitor perception.

# 7.4.3 Environmental Values

Although a tourist's environmental values are not able to influence forest management practices, they have been shown to influence acceptance of forest practices (Wagner et al., 1998), preference for certain recreation activities (Dunlap & Hefferman, 1975; Carls, 1980; Wall, 1982), as well as preferences for certain recreation settings (Hunt et al., 2000). Analysis of the new ecological paradigm question revealed only one significant difference between the three sample groups in each destination. The Winter Harbour fishing group appeared to hold more anthropocentric values when compared to the other sample groups. According to Ford et al., (2005) people on this end of the spectrum place less importance on forest aesthetics. This could potentially help to explain the differences noted between the Winter Harbour fishing group and the others for the nature-based tourism setting preference scores and ratings given to harvested areas (landscape perceptions). Few significant differences were noted between the three Tasmania sample groups. However, this could possibly be explained by the low sample size for the Central Highlands fishing guests. This was expressed in the original theoretical framework and is shown in Figure 8.



Figure 8. Results suggest that environmental values influence landscape perceptions and setting preferences.

# 7.4.4 Visitor Satisfaction

Despite the findings that suggest certain visitors are negatively affected by exposure to forest industry impacts, most survey participants in both destinations exhibited a high level of satisfaction. This suggests that there are a number of additional elements shaping overall satisfaction that may not have been tested in this study. For example, factors that include value for money, friendliness of locals and cleanliness of destination could all influence visitor satisfaction. Despite the negative reactions that were associated with certain forestry impacts in Vancouver Island and Tasmania, it is likely that other factors produced positive reactions resulting in a high level of overall satisfaction for visitors in both destinations. This idea is illustrated in Figure 9.



Figure 9. Additional elements of a destination help shape visitor perceptions.

# 7.4.5 Tourist Gaze

The proposed theoretical model (Figure 9) is based upon destination image theory and appears to suggest that the tourist gaze theory is not sufficient for accurately describing the entire tourist experience. According to Urry (2002) objects that tourists expect to gaze upon are the images often depicted in postcards and other forms of promotional media. If these objects do not meet expectations it is likely to have a negative impact upon the tourist experience. Survey results from both Vancouver Island and Tasmania revealed that a large proportion of visitors to both destinations gazed upon a variety of forest industry impacts during their visit (Table 19 & Table 52). A significant percentage of these visitors also revealed that these impacts negatively impacted upon their perception of each destination (Table 20 & Table 53). According to the tourist gaze theory this should have had a negative impact upon visitor experience. However, visitor experience ratings from both places were shown to be quite high (Table 15 & Table 48). This suggests that certain elements of each destination which go beyond the tourist gaze played an important role in shaping the quality of visitor experiences (e.g. facilities, value for money, friendliness of locals, destination cleanliness, etc.). Therefore, a theory that considers many aspects of a destination (i.e. destination image), rather than just the visual elements (i.e. tourist gaze) is likely to provide the most accurate picture of the overall tourist experience.

# 7.4.6 Summary

This investigation provided support for various theories discussed in this research. Past studies have demonstrated that visual impacts from the forest industry can influence the ways in which individuals perceive landscapes (Brown & Daniel, 1986; Bell, 1999; Sheppard, 2004). Naturally appearing landscapes are usually preferred to those which exhibit obvious visual impacts (Picard & Sheppard, 2001). Findings from this research appear to support this theory, as harvested areas had a much lower degree of acceptance than tree plantations, which tend to appear more natural in the landscape. Research has also demonstrated that recreation setting preferences differ between tourist market segments (Paquet & Belanger, 1997; Hunt et. al., 2000). Findings from this study appear to support this. Despite the many similarities that were shown to exist between sample groups, the Winter Harbour fishing group appeared to be much more accepting of settings that exhibited obvious forest industry impacts. This sample group (Winter Harbour fishing) also demonstrated more anthropocentric values than the others, which appears to support the theory suggesting that individuals who hold anthropocentric views place less importance on forest aesthetics (Ford et. al. 2005). Finally, this research gives support to destination image theory, which suggests that there are a number of attributes that contribute to the overall image of a destination. Despite the negative perceptions found to be associated with certain aspects of the forest industry in both case study regions, visitor satisfaction was shown to be quite high. This suggests that there were likely a number of other attributes unrelated to forestry that contributed to the high levels of satisfaction found in both Vancouver Island and Tasmania.

# 7.5 Management Solutions

The third research question asked how forests can be managed to help ensure that recreation and tourism values are not compromised by other forest interests. The working hypothesis suggested that management practices reflecting the landscape preferences of nature-based tourists could help reduce the likelihood of tourism values being compromised by forestry. This was based upon past research that has demonstrated benefits when natural resource management decisions consider the needs of tourism (Tyrvainen, Silvennoinen & Nousiainen 2002; British Columbia Ministry of Forests, 2003). To gain insight into potential management solutions the questionnaire contained a question asking visitors about the visibility of various forest industry impacts, as well as their forest management preferences. The interview process also attempted to uncover additional ways to help reduce conflicts between forestry and tourism in destinations that promote natural attractions.

#### 7.5.1 Exposure to Forestry Impacts

Whether or not an individual is exposed to forestry impacts is likely to influence the degree to which their experience is impacted upon by the industry. For example, somebody who is particularly sensitive to forestry impacts is unlikely to have their experience negatively impacted if they do not encounter any evidence of the forest industry. To understand how visible forestry impacts are to visitors, section six of the questionnaire asked participants to indicate whether or not they had observed harvested areas, tree plantations, logging trucks or saw/pulp mills during their trip. Because visitors to certain areas are more likely to encounter forestry impacts than visitors to other areas these results could be highly dependent upon the location of the chosen sample sites.

Results revealed that certain types of forest industry impacts were more visible to some visitors than others. A high proportion of visitors to both destinations encountered harvested areas at some point during their trip. According to the results 79.8% of those sampled in Vancouver Island observed harvested areas, while 64.7% of participants in Tasmania observed this type of impact. This seems to suggest that harvested areas are more visible to tourists in Vancouver Island than they are in Tasmania. Harvested areas were shown to negatively impact upon the perceptions of a high proportion of questionnaire participants in both destinations. The fact that this type of impact is so visible to visitors in Vancouver Island and Tasmania appears to rationalize concerns regarding visual impacts that were expressed by interview respondents.

Results also revealed that 69.7% of visitors to Tasmania encountered tree plantations, which is much higher than the 56.7% of Vancouver Island tourists who observed them. Once again, location of sample sites may have influenced these numbers. However, it is likely that the visibility of plantations in many parts of Tasmania were also a determining factor. Plantations within Tasmania seem particularly visible for two reasons. Despite many plantations being eucalypt species, there is also a large percentage of plantations containing *Pinus radiata* (Forestry Tasmania, 2012). Because this species of pine is not native to Australia it tends to be

much more visible on the landscape than eucalypt plantations (Figure 10). Additionally, many of the eucalypt plantations within Tasmania are located along roadsides on private land. This makes them especially visible during their early years of growth (Figure 11). Although this type of forestry impact rated much higher than the others included in the survey, some respondents still indicated that tree plantations negatively impact upon their experience. Therefore, it is important to consider potential that impacts that plantations could have upon visitor perceptions.



Figure 10. Pine plantations in Meandor Valley, Tasmania.



Figure 11. Eucalypt plantations on private land near Sheffield, Tasmania.

Out of those sampled in Vancouver Island 63.2% reported that they had observed logging trucks during their visit. This is much higher than the 41.6% of those sampled in Tasmania who reported these types of encounters. Along with the sample sites chosen, it is likely that the

recent decline of the Tasmanian forest industry may have influenced this result. Due to less activity in the forests, there has been a noticeable decline in forestry traffic on Tasmanian roads in recent years.

Finally, out of the individuals sampled in Vancouver Island 40.9% reported that they had observed saw or pulp mills during their visit. Once again, this was much higher the 27.8% of Tasmania visitors who encountered these. As with the previous three impact types discussed, this could be a product of the sample sites chosen. However, it is also possible that mills are more visible to Vancouver Island visitors than they are to those visiting Tasmania.

Degree of exposure to forest industry impacts was shown to differ according to the two case study destinations. However, it is likely that degree of exposure will also differ according to the regions that are visited within each destination. For example, routes to certain attractions may travel through protected areas, while routes to others may require travel across highly industrialized landscapes. To help account for this, participants were asked to indicate whether or not they had observed harvested areas, tree plantations, logging trucks or saw/pulp mills during their trip. Comparisons were then made between sample groups to understand which sites were associated with the most noticeable forest industry impacts.

According to Vancouver Island results, the only impact type that was not associated with sample site was logging trucks. The proportion of visitors exposed to harvested areas was greatest for the Winter Harbour Fishing group. This was followed by the West Coast Trail group and then the Kwisitis Visitor Centre group. Despite being the least likely to observe harvested areas, more than 70% of visitors centre guests still encountered this type of impact. This suggests that harvested areas are quite visible throughout many areas that tourists visit on Vancouver Island.

Observations while travelling to these sites support this, as visitors to Winter Harbour are heavily exposed to highly industrialized forest areas (Figure 3). This is also the case for West Coast Trail Walkers who travel from the Nanaimo ferries (Figure 4). Although the route towards the Kwisitis Visitor Centre has much less exposure to harvested areas, the nature of this site

meant that these participants had a higher likelihood of observing forestry impacts elsewhere. This is because these respondents were more likely to be traveling throughout many areas of Vancouver Island, as opposed to visiting for a specific activity (e.g. hiking, fishing). Examples of forest industry impacts that Vancouver Island respondents were likely to encounter can be seen in Figures 12 & 13.



Figure 12. View of harvested areas from shore at Winter Harbour.



Figure 13. View of harvested areas travelling towards West Coast Trail heads from Nanaimo.

Tree plantations were also associated with certain sample sites more than others in Vancouver Island. Approximately 50% of respondents from both the Kwisitis Visitor Centre and West Coast Trail reported observing this type of impact. However, more than 90% of respondents from Winter Harbour reported observing this type of impact. Like harvested areas, this was likely related to the degree to which the landscape has been altered in the Winter Harbour region. However, the low proportion of West Coast Trail walkers who reported seeing tree plantations cannot be explained. In addition to tree plantations and harvested areas, saw/pulp mills were also associated with certain sample sites more than others. West Coast Trail walkers were least likely to observe these, while Winter Harbour fishing guests had the highest likelihood.

Results from the Tasmania data revealed that each of the four impact types were associated with specific sample sites. The proportion of participants who encountered harvested was greatest for the Central Highlands fishing group followed by the Cradle Mountain Visitor Centre group. While more than 80% of respondents from these two groups observed harvested areas, less than 50% of Overland Track walkers were exposed to this type of impact. This suggests that tourists travelling to the Overland Track are much less likely to encounter harvested areas than visitors to other attractions in the state.

Observations made while travelling to these sites supports these findings. Overseas and interstate visitors travelling to the start of the Overland Track generally arrive in either Launceston or Devonport and head south towards the trailhead which is located at Cradle Mountain – Lake St. Clair National Park. Although this route exposed visitors to numerous tree plantations, very few harvested areas can be seen. However, respondents from the other two sample groups are more likely to have travelled throughout other areas of the state, potentially exposing them to more harvested areas (Figure 14).



Figure 14. View of harvested areas in northwest and central Tasmania.

The other types of forest industry impact were also associated with specific sample groups in Tasmania. Overland Track walkers were shown to have less exposure to tree plantations,

logging trucks and saw/pulp mills than the other two sample groups. Like harvested areas, this can probably attributed to the fact that Overland Track walkers tend to follow a specific route that has less exposure to the forest industry than other areas of the state.

Findings from this research, as well as past studies (British Columbia Ministry of Forests, 2003; Hunt, Haider & Johnson, 2000), have demonstrated that certain types of forest industry impacts have the ability to negatively impact upon destinations that market the natural environment. Despite this, survey results suggest that forest industry impacts were quite visible in both Vancouver Island and British Columbia. This is especially true for harvested areas. Based upon this evidence, it seems likely that management solutions that further minimize the visibility of forest industry impacts could provide benefits for tourism in both case study destinations.

#### 7.5.2 Forest Management Preferences

Along with forest industry impact observations, participants were also asked to indicate their level of agreement with five potential options for the management of Vancouver Island and Tasmania forests. The purpose of this was to gain insight into the management preferences of visitors to both destinations. When presented with the option of making no changes to forest management practices, nearly 60% of Vancouver Island respondents indicated that they either disagree or strongly disagree with this statement. This suggests that a high proportion of visitors would like to see some changes to forest management practices on Vancouver Island. Of the forest management options presented to visitors, limiting harvesting near recreation areas to preserve scenic views received the most support, with more than 80% of respondents indicating that they either agree or strongly agree with this option. This was followed by the restriction of harvesting near transportation routes to preserve scenic views, with over 70% of respondents indicating that they either agree or strongly agree with this option. Despite the strong support for the restriction of timber harvesting in certain areas, very few respondents were outright opposed to the presence of the forest industry with only 15.8% of respondents indicating that they believe timber harvesting should be banned throughout Vancouver Island.

Significant differences were also observed when comparing the acceptance ratings given by the three sample groups. Winter Harbour fishing guests were much more likely than the other two sample groups to agree with the statement suggesting that no changes to forest management practices were needed. Additionally, this group was less likely than the other two sample groups to support the three of the management options presented (i. Limit harvesting near recreation areas; ii. Heavily restrict harvesting throughout Vancouver Island; iii. Ban harvesting throughout Vancouver Island). This seems to suggest that Winter Harbour fishing guests are more supportive of current forest management practices than are West Coast Trail walkers and Kwisitis Visitor Centre guests.

When presented with the option of making no changes to forest management practices, more than 60% of Tasmania questionnaire respondents indicated that they either disagree or strongly disagree with this statement. This seems to suggest that a high proportion of visitors would like to see some changes to forest management practices in Tasmania. Out of the forest management options presented to visitors, the limiting of harvesting near recreation areas to preserve scenic views received the most support, with nearly 80% of respondents indicating that they either agree or strongly agree with this option. This was followed by the restriction of harvesting near roadways to preserve scenic views with over 60% supporting this option. Despite the strong support for the restriction of timber harvesting in certain areas, very few respondents were outright opposed to the presence of the forest industry with less than 20% of respondents indicating that they believe timber harvesting should be banned throughout all areas of Tasmania.

Only one significant difference was observed when comparing the acceptance ratings given by the sample groups from Tasmania. Cradle Mountain Visitor Centre guests were much more likely than Overland Track walkers to agree with the statement suggesting that harvesting should be limited near recreation areas to help preserve scenic views at these sites. However, no other significant differences were found between the Tasmania sample groups.

#### 7.5.3 Conflict Reduction Strategies

The purpose of the interview process was to uncover measures that could be used to help reduce conflicts between forestry and tourism in destinations that promote natural attractions. Therefore, the following sections will discuss certain issues that may have may have contributed to conflicts between forestry and tourism in the past, as well as potential solutions that may be used to alleviate them.

#### 7.5.3.1 Vancouver Island

In Vancouver Island a number of issues relating to the management of forestry and tourism were identified by interview participants. The visual impacts associated with the forest industry and the ways in which this could negatively affect tourism was a topic that received significant attention from interviewees. Survey results from both case study locations and results from previous studies (British Columbia Ministry of Forests, 2003; Hunt, Haider & Johnson, 2000) appear to support this. Additionally, the landscape scale alterations that occur as a result of forest harvesting were also discussed by interview participants. Although some strategies have been developed to help address some of these issues, there are still measures that can be taken to improve the situation further.

The British Columbia Ministry of Forests acknowledged that the Province's landscapes are one of the foundations of the tourism industry (British Columbia Ministry of Forests, 2001). Additionally, the British Columbia Council of Tourism Associations has indicated that the health of the province's tourism industry rests on its reputation for natural beauty (Council of Tourism Associations, 2007). To help address some of the issues relating to visual impacts associated with the forest industry visual resource management is practiced throughout British Columbia. Visual quality objectives are used to set visibility thresholds for landscape alterations (Picard & Sheppard, 2001). These are essentially management objectives that reflect the desired level of visual quality for a given area. Visual quality objectives are generally based upon physical characteristics and social concern for an area and help dictate the degree of visual alteration that can occur in a landscape. Any forestry operation that is to occur within a known scenic area that has established visual quality objectives must first complete a visual impact assessment before approval is granted. This has to be completed before any road construction or harvesting begins (British Columbia Ministry of Forests, 2001). Although this system has produced some

positive results, it could be argued that there is significant room for improvements. For example, a survey of landscapes across the province taken between 2007 and 2008 revealed that only 61% of these actually achieved the visual quality objectives that had been set. This number drops significantly when considering areas considered as highly sensitive (retention landscapes) where objectives were met only 33% of the time (Forest and Range Evaluation Program, 2011). These figures seem to suggest that many positive aspects of the visual quality objective system are often cancelled out by poor adherence to the required standards. Therefore, it is likely that some type of enforcement program would produce positive results for tourism.

During the interview process certain participants expressed concern that the visual quality objectives in many areas of the province may be outdated. This could potentially put forestry into conflict with the needs of the nature-based tourism industry. An example of this, can be seen along two of the more commonly travelled routes leading to the West Coast Trail head where clear cuts dominate the landscape along many of the roadsides leading from the Nanaimo ferries towards Pachena Bay and Port Renfrew (see Figure 5). With the West Coast Trail having gained such a strong international reputation as a world-class nature-based tourism attraction it seems that these routes should be subject to stricter visual quality objectives. It could be argued that this may also be the case in certain areas of the Discovery Islands. This region has become one of the most important marine tourism destinations in the province. However, the Discovery Islands Marine Tourism Group has voiced serious concerns about the effect that visual impacts from insensitive forestry practices are having upon the nature-based tourism industry in this area (Hume, 2012). Despite opposition from tourism operators, BC Timber Sales approved logging on Maurelle Island during the summer of 2013. According to members of the Discovery Islands Marine Tourism Group most of their concerns were ignored during the consultation process leading up to this decision (Rudan, 2013). These examples seem to suggest that the needs of nature-based tourism are often ignored or overlooked when it comes to visual resource management in certain areas of Vancouver Island.

Another concern voiced by certain interview participants relates to the lack of communication that is required by the forest industry when it comes to consultation with other stakeholders. Although this issue was identified during the interview process, it has also been echoed by the Council of Tourism Associations in British Columbia (2007) who consider current consultation requirements to be inadequate. According to the Forest and Range Practices Act all licensees are required to create a Forest Stewardship Plan. Before a draft of the plan is submitted, licensees must provide a mandatory period for public review. By publishing a notice in a newspaper licensees have satisfied the requirement for public notice. However, there is currently no requirement for licensees to identify specific stakeholders who may be affected and notify them of their plans. This does not appear to follow principles of effective consultation as defined by the British Columbia Forest Practices Board (Gooch, 2013). These principles include early and effective communication that gives sufficient time for public involvement. Adequate resources should also be made available to the public to allow for effective participation that is inclusive, informative, accessible and continuous. In addition to this, forest company responses to public input should be genuine and responsive. Based upon these principles of effective communication the Forest Practices Board has criticized the level of consultation required by the Forest and Range Practices Act stating that its requirements for public involvement in operational planning is minimal (British Columbia Forest Practices Board, 2003). Although there are other stage's of the management process where additional opportunities for input exist, the Forest Practices Board has stated that the public should have the opportunity to provide input at all planning levels, from strategic to operational. Therefore, more stringent requirements in regards to consultation could produce better results for other forest users, such as tourism operators.

A contributing factor to the landscape scale alterations created by forestry is the high priority that the industry receives when it comes to land use planning. The priority given to the forest industry was acknowledged by both tourism and forestry affiliated interview participants. It is possible that this practice could potentially put other businesses that utilize forested landscapes (e.g. tourism) at a disadvantage. During the development of the forest sector in the early part of the twentieth century most of British Columbia was zoned for timber production. In order to change zoning from an existing land use to something different the Minister must be satisfied that 'the importance of the land use objective or amendment outweighs any adverse impact on opportunities for timber harvesting' (British Columbia Ministry of Agriculture and Lands, 2008, p.13). This is despite the fact that forestry may or may not be the best land use option for a given area (British Columbia Ministry of Forests, 2003). Because the tourism industry plays such vital role in the British Columbia economy it seems logical that tourism interests should be given a higher priority when it comes to forest management decision making. However, current

legislation appears to give top priority to the forest industry. This is based on the idea that forestry was considered the province's most important industry at one time. However, it can easily be argued that this is no longer the case.

It appears that the priority given to forestry in British Columbia may have been enhanced by the introduction of the Forest and Range Practices Act. This framework is commonly described as a 'results based' approach to forest management. This means that government specifies desired forest management outcomes while forest licensees are given the flexibility to determine the practices used to achieve these outcomes (Gooch, 2013; Malkinson, 2011). An objective of the old Forest Practices Code was to create a level playing field for all forest licensees. Unfortunately this led to increased costs for both government and the forest industry. In attempt to address this issue the Forest and Range Practices Act was introduced. Reasons for its development include a reduction in costs to government and industry, as well as increased flexibility for forest licensees (British Columbia, 2005). One could argue that this gives increased priority to forestry interests at the expense of other forest users, removing much of the accountability from the forest companies. This view was expressed by multiple tourism affiliated interview participants. Despite increased costs, it seems that a regulatory framework surrounding forest resource management in British Columbia that is more equitable to all forest users would not only be fair, but also beneficial for all other industries that rely on the province's forest resources.

According to certain interview participants it seems as though it is becoming more difficult to find prime areas to conduct nature-based tourism activities. Although the amount of private land in certain parts of Vancouver Island was identified as a contributing factor, visual impacts from forestry were also mentioned. Unfortunately, many nature-based tourism operators are forced to operate within highly altered landscapes. The prevalence of these landscapes is supported by data showing the strong likelihood of visitors encountering harvested areas while travelling throughout Vancouver Island. Commercial tourism opportunities are limited within Vancouver Island's current protected area system. However, few places located outside of protected areas are managed in ways that are conducive to the maintenance of nature-based tourism values. Therefore, it may be useful to identify additional areas within Vancouver Island that possess significant tourism values and subject them to additional protection and special management regimes, similar to what has been done in the Tofino region. It is possible that the importance of the nature-based tourism industry in the Discovery Islands, combined with current threats posed by logging in the region would make this region an ideal candidate for a similar management system.

Although no official figures currently exist, the Western Canadian Wilderness Committee estimates that 12 – 14% of Vancouver Island is currently protected (T. Coste, personal communication, July 17, 2013). This is roughly on par with recommendations made by the World Commission on Environment and Development in 1987 which suggest an international goal of 12% protected areas (Dearden & Rollins, 2009, p. 17). However, it is less than the 17% target for 2020 that is recommended by the Convention on Biological Diversity (2013). It seems that a region promoting itself as a world-class nature destination should strive to exceed minimum international recommendations for wilderness protection. This would be similar to what is seen in other nature-based tourism destinations, such as New Zealand where 29% of its land is protected (Convention on Biological Diversity, 2013b) or Costa Rica where approximately 25% of land is under some form of protection (Convention on Biological Diversity, 2013a). Although the establishment of protected areas can limit opportunities for nature-based tourism developments in some situations, this could potentially be addressed if protected area categories are assigned in a way that is sensitive to the needs of the tourism industry. For example, Category V protected areas allow for more intensive uses than some of the other protected area categories (International Union for the Conservation of Nature, 2008). Therefore, it seems conceivable that this category of protected area could be used to facilitate certain ecotourism activities under the right circumstances.

During the 2013 provincial election a key platform used by the BC Liberal Party was a jobs plan with primary objectives being job creation and the expansion of markets for British Columbia products and services (British Columbia, 2012). As part of this jobs plan the provincial government released a five year tourism strategy intended to help guide government, industry, stakeholders and communities in working together to deliver the best results for the tourism sector. One of the key objectives of the five year tourism strategy is to achieve 5% growth per year within the British Columbia tourism industry. This plan acknowledges that outdoor adventure experiences in pristine natural settings are critical to tourism experiences within the province and 'intrinsic to the Super Natural British Columbia brand' (British Columbia Ministry of Jobs, Tourism and Innovation, 2012, p.31). However, evidence presented indicates that forestry has the potential to negatively impact upon nature-based tourism if forest practices are not sensitive to the needs of the tourism industry. It also appears that forestry receives a higher priority than tourism in many regions of Vancouver Island. This is despite the vital importance of tourism to the British Columbia economy. Therefore, it seems as though a forest industry that is more sensitive to the needs of nature-based tourism would help to facilitate the provincial government's goal of 5% growth in the tourism industry per year.

#### 7.5.3.2 Tasmania

Despite sharing many similarities with Vancouver Island, a number of issues that were unique to Tasmania were also identified during the interview process. Like Vancouver Island, visual impacts associated with the forest industry in Tasmania were identified as a potential threat to nature-based tourism. This is supported by survey results, as well as other studies that have examined forestry and tourism related issues (British Columbia Ministry of Forests, 2003; Hunt, Haider & Johnson, 2000). As well as visual impacts, forest managers in Tasmania must also consider the effect that their regeneration and fuel reduction burning programs could have on the tourism industry and surrounding communities. It appears that these two main issues have lead to serious conflicts in the past. However, there have been a number of attempts in recent years to address these types of issues and find ways in which tourism and forestry can work together more closely.

According to many of the interview participants in Tasmania the relationship between the forestry and tourism industry has gone from being quite negative in past years to the current situation which is increasingly seen as being positive. A primary reason cited for this improvement by both tourism and forestry affiliated interview participants was the establishment of *Tourism and Forestry Protocol Agreement*. This document was developed to help provide a framework to guide communication and consultation between the tourism and forestry industries. Although these types of agreements are not common, they have been seen in other places. For example, in Ontario the *Tourism and Forestry Industry Memorandum of Understanding* was signed between the Ministry of Natural Resources, the Ministry of Tourism, the Ministry of Northern Development, as well as representatives from the forestry and

resource-based tourism industry. The purpose of this was to create a framework for negotiating resource stewardship agreements that allow both industries to co-exist and prosper (Ontario Ministry of Natural Resources, 2006). This document is used in combination with the *Management Guidelines for Forestry and Resource-Based Tourism* to help ensure that forestry and tourism are managed in a way that is equitable for both industries (Ontario Ministry of Natural Resources, 2001).

One of the features making the *Tourism and Forestry Protocol Agreement* unique is that its signatories are all industry organizations without the inclusion of any government departments. Although Forestry Tasmania is responsible for managing the state's forests, they are technically a forest management corporation and separate from other government departments, such as the Department of Primary Industries, Parks, Water and Environment who are responsible for the overall management of Tasmania's natural and cultural assets. Because this solution was created by industry organizations means that very little government resources were dedicated to the development and maintenance of this solution. A key principle contributing to the success of the *Tourism and Forestry Protocol Agreement* is the fact that it is based upon recognition that both industries are vital to the Tasmanian economy and a commitment to close and ongoing cooperation in order to maximize benefits for both industries (TICT, FT, FIAT & PFT, 2009). This means that each industry is required to conduct its business in way that considers the needs of the other industry. Close communication channels are also maintained to help ensure that each industry remains informed about what the other is doing in order to help minimize potential conflicts.

The interview process revealed how far the forest industry in Tasmania is willing to go in order to try and accommodate the needs of tourism. For example, each year the Tourism Industry Council of Tasmania provides Forestry Tasmania with a list of special events that are to occur throughout the state. The purpose of this is to assist with the planning of burning programs so that they are conducted in a way that will not impact upon any major events during the tourist season. One interview participant even stated that there have been situations in the past where burns have been called off due to unpredicted weather after all staff and equipment have arrived on site. A consideration of the costs associated with this helps to demonstrate the commitment that Forestry Tasmania has when it comes minimizing the impact that their operations have
upon local communities and the tourism industry. Interview participants in Tasmania also praised the positive results in relation to visual resource management that are a result of the *Tourism and Forestry Protocol Agreement*. Because the introduction of the agreement has created a formalized policy in regards to communication and consultation, harvesting operations are now much more likely to consider the visual needs of the tourism industry. In situations where future cut blocks have the potential to impact upon nature-based tourism operations business owners are able to raise their issue with the Tourism Industry Council of Tasmania who then have a standardized protocol to follow in order to address the issue with the forest industry.

A key to the success of the *Tourism and Forestry Protocol Agreement* is not the document itself, but the commitment on the part of its signatories to making it work. Interview participants from both tourism and forestry stated that a commitment from both sides is required to ensure that improvements to the relationship between the two industries continue to be made. However, the interview process revealed that the agreement's success has actually led to a reduction in communication between the two industries seemed to be much more vigilant in terms of maintaining regular communication channels. However, a product of the agreement's success has been a reduction in communication since fewer conflict issues now arise. This was recognized by interview participants who indicated that reduced communication has the potential to cancel out some of the positive gains that have been made. Therefore, a renewed commitment to the maintenance of communication from both industries in Tasmania would likely help to ensure that an increase in conflict situations does not occur.

Certain aspects of the legislative framework within Tasmania also play a role in the protection of tourism values. The introduction of the *Forest Practices Act* and the *Forest Practices Code* has helped to make sure that a range of values in addition to forestry are considered by decision makers. The *Forest Practices Act* outlines forest planning requirements from the forest to state level. A requirement of this legislation was the development and implementation of the *Forest Practices* on both private and public land (McDermott, Cashore & Kanowski, 2007). The guidelines provided by the *Forest Practices Code* help to ensure that management is carried out in a way that

provides for reasonable protection of the environment. The *Forest Practices Code* is legally enforceable under the *Forest Practices Act* (Forest Practices Authority, 2010a) and includes standards that provide protection for a range of values that include the visual landscape and cultural heritage, amongst others (Forest Practices Board, 2000). Because these values are inherently connected to tourism, their maintenance ultimately provides benefits to the tourism industry. In addition to the actual *Forest Practices Code*, it has been supplemented with planning manuals and technical guides to help ensure practitioners conduct their activities in a manner that is aligned with the values identified to be important (McDermott, Cashore & Kanowski, 2007).

One aspect of Forestry Tasmania that makes it distinct from many other forest management organizations is their development of tourism attractions within state forests. According to the Forestry Tasmania tourism and recreation policy they are committed to providing recreation and tourism opportunities that raise awareness of forests and sustainable forest management (Forestry Tasmania, 1999). This is being accomplished through the development of various tourism sites throughout the state that include the Tahune Airwalk, Tarkine Forest Adventures and the Geeveston Forest and Heritage Centre. It seems as though there may be two potential advantages associated with these types of developments. Firstly, they give Forestry Tasmania the opportunity to provide visitors with information about their forest management practices. Assuming that information is truthful and forest management is carried out in a publicly acceptable manner, interpretation at these sites could benefit the organization and Tasmania as a nature-based tourism destination by communicating the forest industry's commitment to sustainable forest management.

As well as communicating forest management practices, certain Forestry Tasmania tourism developments have helped to rejuvenate the local economy in certain communities. Nowhere is this more evident than in the Huon Valley where development of the Tahune Airwalk has played a significant role in attracting tourists into an area that was previously experiencing economic hardships (Felmingham, 2005). Because of their potential for stimulating economic development in certain regions, Forestry Tasmania tourism developments clearly have the ability to benefit the tourism industry. However, it should also be noted that other Forestry Tasmania tourism sites have not been as successful. This means that forest management agencies considering

this strategy should ensure that these developments have a high probability of achieving commercial success, as they can require a significant amount of investment.

Even though significant improvements have been made to the relationship between forestry and tourism in Tasmania, it appears that certain tourism operators still feel as though they do not receive sufficient consideration when it comes to forest management. This issue was raised by an interview participant who operates in an area where forestry is the dominant industry. Although this was raised by only one interviewee, it is likely that this is not the only nature-based tourism operator within Tasmania who holds this view. When discussing the issue this individual spoke about the way in which forestry dominates the landscape in their region and displeasure with the way in which past concerns have been addressed. Therefore, an increased focus on building relationships with tourism operators in regions where resource extraction industries are most prevalent could further reduce conflicts that may exist in these areas.

Despite Forestry Tasmania's management of reserves and development of tourism attractions, some would suggest that the forest industry in Tasmania suffers from negative perceptions amongst the public. This was mentioned during the semi-structured interview process. Much of this is likely attributed to high profile conflicts that have surrounded the industry in the past three decades in regards to certain forest management practices, as well as their support for unpopular forestry related developments (e.g. Bell Bay, Wesley Value & Whale Point Pulp Mills). Although much of the criticism does originate regionally, issues relating to the Tasmanian forest industry also receive significant attention from interstate media. Because the Tasmania tourism industry relies heavily on interstate visitors a negative public image associated with the state's forest industry could potentially have implications for tourism and other sectors. Despite this issue, it appears that the forest industry in Tasmania has made attempts in recent years to improve their image amongst the public. This can be seen through the development of the Tourism and Forest Industry Protocol Agreement, which attempts to reduce conflicts with the tourism industry (TICT, FT, FIAT & PFT, 2009), as well as the Tasmanian Forest Agreement bill that addresses many of the concerns held by environmental groups (Environment Tasmania, 2013). In order to build on these successes the forest industry in Tasmania should try to continue being reactive to concerns raised by citizens, as well as other industry groups. It is likely that this could potentially provide benefits for both the tourism and forest industries.

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#### 7.5.4 Summary

Survey participants were asked about the types of forest industry impacts that they had observed during their trip. Although harvested areas were quite visible to visitors in both destinations, those visiting Vancouver Island were more likely to observe this type of impact than visitors to Tasmania. Because harvested areas have been shown to influence visitor perceptions it seems as though a reduction in the visibility of these areas could benefit the tourism industry in both case study destinations. Tree plantations were much less likely to produce negative ratings from survey participants, despite the fact that they were quite visible in both Vancouver Island and Tasmania. This is likely because this type of forest industry impact tends to appear much more natural in the landscape. However, certain respondents still indicated that plantations negatively impacted upon their perceptions. Therefore, efforts should be made to ensure that they appear as natural as possible in regions that promote natural landscapes to attract visitors.

Survey participants were also presented with a set of forest management options and asked to rate their level of agreement with each. When presented with the option of making no changes to forest management practices, more than half of visitors to both Vancouver Island and Tasmania indicated that they either disagree or strongly disagree with this statement. This seems to suggest that improvements to forest management practices could produce positive results for the tourism industry in both places. The management options that received the most support in both Vancouver Island and Tasmania include the restriction of harvesting near recreational areas to preserve scenic views and the restriction of harvesting near transportation routes to preserve scenic views. This appears to suggest that further efforts to limit the visibility of forest industry impacts in areas frequented by tourists could produce benefits for the tourism industry in destinations that market the natural environment.

Analysis of the semi-structured interviews provided insight into the ways that conflict is currently being managed between the tourism and forest industries in both case study regions. Ideas were also raised about ways in which conflicts could be further reduced. Despite the importance of nature-based tourism and forestry in both Vancouver Island and Tasmania, many differences were found to exist in terms of how conflicts between these two industries are managed. The examination of interview results has uncovered a number of useful tools that could potentially

help to reduce conflict between forestry and tourism in regions that market natural landscapes and outdoor activities.

It seems clear that the management of visual impacts associated with forestry is critical in areas where tourism relies heavily on the maintenance of natural landscapes. This issue was identified as important by interview participants in both Vancouver Island and Tasmania and is being addressed differently in both places. In Vancouver Island a legal framework managing visual quality objectives is present to help preserve viewscapes that have been identified as visually sensitive. Forest companies who operate in visually sensitive areas must comply with this legal framework. Although the system has produced some positive results, it has also received criticism. Certain interview participants suggested that visual quality objectives in some areas are outdated. In addition to this, the Forest and Range Evaluation Program (2011) found that a high percentage of harvested landscapes that were surveyed did not meet specified visual quality objectives. Based upon the findings of this research it seems possible that this could negatively impact upon the tourism industry. Perhaps a system that would penalize companies for not meeting legislated objectives could help to address this issue and provide positive results for the nature-based tourism industry and the general public. In Vancouver Island many of the issues relating to visual resource management are addressed within the Forest Practices Code, which is legally enforceable under the Forest Practices Act (Forest Practices Authority, 2010a). This includes various standards intended to protect a range of values, including the visual landscape (Forest Practices Board, 2000).

Even though a legal framework exists in British Columbia to help address visual management concerns, certain aspects of the legislation surrounding forest management in British Columbia appear to prioritize the forest industry. It could be argued that the introduction of the *Forest and Range Practices Act* provides forestry with too much power at the cost of other forest users. Despite reducing costs to government, certain interview participants believe that the introduction of this legislation has negatively impacted upon their tourism product. Interviewees also criticized the *Forest and Range Practices Act* for the lack of consultation that is actually required by forest companies. This is a concern that has been supported by the Forest Practices *Act*, stating that its provisions do not follow principles of effective communication (British Columbia

Forest Practices Board, 2003). Despite increased government costs, a regulatory framework that better addresses a range of forest users and management concerns like the old *Forest Practices Code* in British Columbia or the current *Forest Practices Code* in Tasmania could provide positive benefits for tourism.

In addition to using legislated requirements, formal agreements between the tourism and forest industries can be useful when trying to prevent or reduce conflict between these two sectors in destinations that rely on the maintenance of natural landscapes. According to interview participants in Tasmania, the introduction of the Tourism and Forest Industry Protocol Agreement has led to vast improvements in the relationship between the two industries over the past decade. Key elements of this agreement include a mutual recognition that each industry is important to a healthy economy, identification of the most critical issues when it comes to managing the two industries, as well as a commitment to ongoing communication and consultation. Similar agreements between the tourism and forestry sectors can be seen in Ontario where the Ministry of Natural Resources have released the Management Guidelines for Forestry and Resource-Based Tourism to assist with forest management in areas used for both forestry and tourism (Ontario Ministry of Natural Resources, 2001). This is accompanied by a memorandum of understanding that is intended to encourage cooperation between the two industries (Ontario Ministry of Natural Resources, 2006). Although the Statement of Mutual Recognition and Respect was signed in 1996 between representatives of the British Columbia tourism and forest industries, this document only consists of a single page that does very little to provide any specific direction in how to manage potential conflicts between tourism and forestry. According to Routledge (2008) this statement became a 'sleeping document' shortly after its initial use, meaning that it currently has little to no relevance when it comes to managing conflict between the two industries. In order make a serious attempt at addressing conflicts between tourism and forestry in British Columbia the initiation of a more detailed agreement that holds both sides accountable would be likely provide benefits to both industries.

In many places the forest industry must deal with issues relating to negative public perceptions. Under certain circumstances these perceptions can lead to high profile conflicts, similar to the controversies surrounding old-growth logging in Tasmania and Clayoquot Sound in Vancouver Island. Along with the impact that this can have upon the forest industry, negative perceptions also have the potential to affect other industries that rely on forested landscapes. To help address this issue, forestry should be reactive to concerns that are commonly raised by the public, such as old growth harvesting, the prevalence of clear cuts and improvements to sustainability. Failure to do this could potentially lead to future high-profile conflicts that could produce negative results for both tourism and forestry.

To help address possible concerns relating to tourist perceptions, attempts can be made to educate visitors about forest management. This may be done through the development of visitor sites that provide interpretation about management practices. If these practices are considered to be socially responsible and information is truthful, education can potentially play a role in managing negative perceptions. This has been done to some extent in Vancouver Island where visitor sites that provide information about forest management have been developed by forest companies in some areas. An example of this is Cathedral Grove, which is a common stop for visitors travelling to certain areas within Pacific Rim National Park. However, public education is being carried out on a larger scale in Tasmania, where Forestry Tasmania has dedicated significant resources to the development of tourism attractions. Many of these attractions provide interpretation about management of the state's forests. Although some have only achieved limited commercial success, others have become very popular and help to shape the perceptions of visitors in regards to forest practices in Tasmania.

#### 7.6 Management Recommendations

Based upon the findings from this research a set of management recommendations have been developed to help guide jurisdictions that may be dealing with conflicts between nature-based tourism and forestry. Although each situation tends to be unique, conflicts between these two industries also share many similarities. Therefore, the following principles may be used to help natural resource managers address issues which are similar to those that have been discussed in this research.

1. Recognition that both industries are very important for the economic sustainability a particular region and that the operations of one industry should not negatively impact upon the viability of the other. Assuming that both industries are critical to a healthy

economy, neither industry should get special consideration over the other when it comes to the management of forest resources.

- 2. Visual resource management is essential in destinations that promote natural attractions to help mitigate the visual impacts often associated with the forest industry. This may be achieved through the development and implementation of visual quality objectives where visual impact limits are set depending upon the level of sensitivity assigned to an area. Visual quality objectives should be regularly updated and based upon information that is accurate and up to date. To help ensure that these objectives are adhered to visual management plans should be subject to an approval process with violators risking penalties. Examples of measures that can be used to help mitigate visual impacts associated with forestry in sensitive areas may include retention harvesting techniques, visual buffers of standing timber and the design of harvest patterns that resemble natural vegetation boundaries.
- 3. Identification of specific regions within nature-based tourism destination that possess significant tourism values. These areas should be subjected to special management regimes that place a priority on nature-based tourism development. Any forest activity in these areas should be conducted in a way that is sensitive to needs the tourism industry. This may be achieved through the establishment of protected areas networks that utilize a variety of IUCN protected area categories and special management zones to achieve desired results.
- 4. Formal agreements between forest industry partners and all relevant stakeholders within the tourism industry are critical. This should be accompanied by a document(s) that provides a framework to help facilitate consultation and foster a positive relationship between the two industries. There are a number of key features that these documents should contain.
  - **a.** Recognition that both industries are critical for the sustainable development of the economy of the region.
  - b. Recognition that the actions of one industry have the potential to negatively impact upon the other industry, ultimately hurting the region's economy as a whole.

- **c.** Commitment from each industry to minimize the impact that their operations may have on the viability/economic sustainability of the other.
- **d.** Commitment to ongoing communication and consultation along with predetermined dates for meetings between groups who are signatories to the agreement. These meetings should be used to discuss/resolve issues raised by tourism or forestry stakeholders.
- e. Industry representative organizations must consult widely with their members and stakeholders to ensure that relevant issues get raised at meetings between forestry and tourism representatives.
- **f.** All stakeholders provided with a list of key contacts within the organization that represents their industry so that they are able to raise potential issues that may be affecting their business.
- **g.** Agreement from both industries to provide the other with briefings and education to help assist in the planning of operations (e.g. sensitive areas, sensitive times, tourism value mapping, etc.)
- h. Identification of the most critical issues when it comes to the management of these two industries. This may include, but is not limited to visual resource management, sustainability of important fish/game habitat/populations, maintaining 'sense of remoteness', etc.
- i. Detailed framework for managing the most important issues, as identified by the agreement.
- **j.** Framework that provides guidelines for issue resolution and the negotiation of conflicts (e.g. third party arbitrator).
- **5.** Special legislation should be used to govern forests that are important for both forestry and nature-based tourism. These tools must:
  - **a.** Recognize the importance of both industries and contain prescriptions that ensure that the interests of one industry are not compromised by the other.
  - **b.** Provide a requirement that each industry is represented fairly. It is critical that legislation does not place a majority of the power into the hands of either the forest industry or the tourism industry.
  - **c.** Requirement that forest companies must conduct sufficient research proving that their proposed operations will not negatively impact on the sustainability of surrounding businesses. This may include, but is not limited to visual impact

studies, economic impact analysis, environmental impact assessments, etc. Costs of ensuring that forest operations do not negatively impact upon surrounding businesses (tourism or otherwise) should be the responsibility of the forest company.

- **d.** Ensure that tools are in place that requires forest licensees to communicate and consult with other stakeholders before forest developments occur. Consultations should occur as early as possible and give sufficient time and opportunity for public involvement. Consultations should also be conducted in a way that is accessible to all interested stakeholders and continuous throughout the entire planning process.
- 6. A negative public perception of a region's forest industry has the potential to negatively impact upon both forestry and tourism in destinations that rely on natural landscapes. Therefore, the forest industry should make genuine attempts to maintain a positive public image. This could likely be achieved if the forest industry is reactive to concerns raised by members of the public. These may include, but are not limited to the harvesting of old-growth forests, sustainability of management practices, visual impacts associated with the industry and uses for timber that is harvested.

#### 7.7 Study Limitations and Suggestions for Future Research

Certain limitations associated with the research have been identified despite efforts to reduce this. Ideally survey numbers for the sport fishermen would have been closer to the amount collected for back-country hikers and front-country visitor centre guests (150 or more). However, sample size targets were not met with either of the two sport-fishing groups. This is especially true for the Central Highlands fishing group in Tasmania where only 14 surveys were collected. Although the low sample size from Central Highlands fishermen limited the degree to which conclusions could be drawn, the sample size from the Winter Harbour fishing group allowed certain conclusions to be made. Nevertheless, additional research would be useful to see whether or not the differences between the sport-fishing group and the other two sample groups in Vancouver Island could be replicated elsewhere. Due to limited amounts of time and resources available, only three tourist user groups were included for this investigation. However, there are other user groups that can be found throughout each of the two case study regions. For example, tourists also travel to Vancouver Island and Tasmania to experience cultural heritage sites, festivals and urban attractions. It is possible that other tourist user groups may have their perceptions impacted by forestry in ways that are different from the three groups tested in this study. Therefore, it would be useful to survey tourists at other types of visitor sites to see if any differences can be found.

Finally, participants could only complete the questionnaire in English. This placed restrictions on the type of individuals who were able to participate. Because of this, only individuals from English speaking countries or those who are able speak English as a second language could submit a questionnaire. Past research has demonstrated that an individual's environmental values may be partly influenced by cultural norms (Wagner et. al., 1998). Therefore, it is conceivable that a method which samples only English speakers may produce different results than a survey produced in a different language. Consequently, it may be useful to conduct similar research using a survey instrument that is able to include those who speak languages other than English. This is especially true when trying to understand issues relating to tourism, which is inherently a global industry.

#### 7.8 Conclusion

The primary objective of this research was to understand whether or not forest practices have the potential to negatively impact upon the perception of tourists in destinations that promote natural landscapes and outdoor activities. It also attempted to understand any differences that may exist between tourist user groups. Finally, this study aimed to uncover methods that could be used to help reduce potential conflicts between forestry and tourism in regions where the economy relies heavily on both industries.

Data from both Vancouver Island and Tasmania appear to suggest that forest industry impacts have the potential to have a negative effect upon the perception of visitors in destinations that promote natural landscapes. However, the degree to which perceptions are affected appears to be dependent upon the type of forestry impact observed. In Vancouver Island harvested areas had the most negative impact upon visitor perceptions. This was followed by logging trucks and saw/pulp mills. Like Vancouver Island, harvested areas in Tasmania also received a mean rating below three, which indicates a negative overall effect upon visitor perceptions. However, mean ratings given to harvested areas in Tasmania were higher than those given to the same impact type in Vancouver Island. This suggests that visitors to Tasmania were more accepting of harvested areas than those in Vancouver Island. Despite the negative ratings given to harvested areas, logging trucks and saw/pulp mills, tree plantations were rated much higher by respondents from both destinations, suggesting that visitors are much more accepting of this type of forest industry impact.

Results from the various sample groups were compared to learn whether or not there are any differences in the way that user groups are affected by exposure to forest industry impacts. Findings provide a limited amount of support to the notion that tourist user groups are affected differently. Although differences were revealed between the Winter Harbour sample groups and the other two Vancouver Island groups, there were also many similarities. Winter Harbour fishing guests rated harvested areas significantly higher than the West Coast Trail walkers and Kwisitis Visitor Centre guests. However, no other statistically significant differences were found when comparing ratings given to the other three forest industry impact types. When comparing ratings given to forest industry impacts in Tasmania no significant differences were found between sample groups. However, it is possible that a larger sample size from the Central Highland fishing guests may have produced statistically significant differences. It is also possible that the selection of other tourist user groups for this research may have produced results with more statistically significant differences.

Semi-structured interviews revealed various measures that can be used to either reduce or help prevent conflicts between forestry and tourism in destinations that promote natural attractions. This information was used to develop a set of management recommendations for natural resource managers who deal with conflicts between forestry and tourism. In places where forestry and nature-based tourism are critical to a region's economy efforts must be made to ensure that visual impacts from forestry do not impact upon tourism values. Close communication and consultation between the two industries should also occur to make sure that

each is informed of the other's activities. The establishment of formal agreements can also be used to help to guide consultation and foster a positive relationship between the two industries. However, this should also be accompanied by a legislative framework that is equitable to both sides.

It is not uncommon for nature-based tourism destinations to rely upon the same resources as the forest industry. The fundamental differences in desires for forest use between these two industries can often lead to conflict situations. In jurisdictions that rely heavily on both industries it is in the best interest of governments to ensure that the actions of one sector do not impact upon the viability of the other. Therefore, it desirable to manage these two industries in a way that minimizes the potential for resource use conflicts. For natural resource managers who are dealing with conflicts between nature-based tourism and forestry, consideration of the principles discussed in this research could help provide solutions that maximize benefits for both industries.

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# Appendix A Vancouver Island Questionnaire & Consent Information



# VANCOUVER ISLAND TOURISM SURVEY CONSENT INFORMATION

Kyle Hilsendager PhD Candidate Forest Resources Management Faculty of Forestry University of British Columbia Email: Howard Harshaw Research Associate Forest Resources Management Faculty of Forestry University of British Columbia Email:

Greetings,

We are asking for your input in an important study about tourism on Vancouver Island, British Columbia.

## PURPOSE

The purpose of this research is to examine the conflict that exists between forestry and tourism in regions that market the natural environment and activities that take place in these settings. The results of this survey will help provide insight into the ways that different tourist user groups are affected by the impacts of forest management practices. This particular survey collects information about:

- Opinions about Vancouver Island as a tourist destination.
- Encounters with forestry impacts while visiting Vancouver Island.
- Opinions regarding potential forest management options on Vancouver Island.
- Attitudes about the environment.
- Demographic information.

This project will help contribute to our understanding about the conflict that may exist between forestry and tourism. Overall results will be shared publicly and may be used to guide discussions and develop policies to address issues regarding forestry and tourism. Upon completion of this study, results of this research will be made available at:

#### www.hd-research.ca/tourism

## **STUDY PROCEDURES**

This survey will take approximately 10-15 minutes to complete. Please take your time as you consider your answers to the questions. Remember there are no right or wrong answers. If not enough space is provided for your answer, feel free to use the extra space provided at the end of the questionnaire. Please, return the completed survey to the research assistant that originally gave it to you.

## CONFIDENTIALITY

Your identity will be kept strictly confidential. You will not be identified by name in any reports resulting from the completed study. All documents will be identified only by a code number and kept in a locked filing cabinet and a password protected computer file. The data that is collected in this research project will be kept for future use regarding public opinions and beliefs about tourism and forestry conflicts. **Please do not write your name anywhere on the questionnaire. Individual responses will not be made available to anyone outside the research team.** 

## **CONTACT INFORMATION**

If you have any questions about the research, or would like further information, please do not hesitate to contact Mr. Hilsendager at the phone number listed at the top of this letter. If you have any concerns about your rights or treatment as a research subject, you may contact:

UBC Office of Research Services Research Subject Information Line

## CONSENT

Participation in this study is completely voluntary, and you may refuse to participate at any time without penalty. You may skip any question if you not feel comfortable answering it, though we encourage you to complete all questions if possible. By completing and returning this survey, you grant your consent to participate in this study.

Thankyou for your help with this important study.

Sincerely,

Kyle Hilsendager

# Vancouver Island Tourism Survey



a place of mind THE UNIVERSITY OF BRITISH COLUMBIA

The following questions ask about your opinions of Vancouver Island as a touist destination.		
With <b>1 being not important</b> and <b>5 being very important</b> , please indicate the degree of importance each of the activities/attractions are to you, when thinking about tourism on Vancouver Island.	Not Important Very Important	
Parks and protected areas	1 2 3 4 5	
Local wine, beer, <i>etc.</i>	1 2 3 4 5	
Unique/rare animals	1 2 3 4 5	
Nightlife/entertainment	1 2 3 4 5	
Quality restaurants	1 2 3 4 5	
Nature-based tours	1 2 3 4 5	
Camping	1 2 3 4 5	
Unique/rare plants	1 2 3 4 5	
Fishing	1 2 3 4 5	
Festivals, concerts, markets, museums, etc.	1 2 3 4 5	
Colonial era history/structures	1 2 3 4 5	
Quality accommodation	1 2 3 4 5	
Diving/snorkeling	1 2 3 4 5	
Tourist information centres	1 2 3 4 5	
Natural scenery	1 2 3 4 5	
Mild weather	1 2 3 4 5	
Aboriginal culture/history	1 2 3 4 5	
Local food	1 2 3 4 5	
Hiking	1 2 3 4 5	
Transportation Networks	1 2 3 4 5	

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The following questions ask about your opinions	of Vancouver Islar	nd as a tourist dest	ination.
Listed below are things that commonly motivate individuals to ta <b>1 being not important</b> and <b>5 being very important</b> , please into to which each item motivated you to take this vacation to Vance	ake vacations. With dicate the degree ouver Island.	NotImportant	VeryImportant
To escape daily routine		1 2 3 4	5
Intellectual improvement		1 2 3 4	5
Go to fashionable places		1 2 3 4	5
To experience different cultures/ways of life		1 2 3 4	5
To do exciting things		1 2 3 4	5
Rest and relaxation		1 2 3 4	5
To experience new/different places		1 2 3 4	) 5
To seek diversion and entertainment		1 2 3 4	5
To alleviate stress and tension		1 2 3 4	) 5
Tell friends about experiences while on vacation		1 2 3 4	) 5
Go to places that friends have not visited		1 2 3 4	) 5
Seek adventure and pleasure		1 2 3 4	) 5
The following questions ask about what outd	loor setting prefere	ences you most pre	fer.
Which settings do you most prefer when participating in outdoo	or recreational activities	s? Check all that appl	у.
C Large undisturbed wilderness areas	Easily accesse	d natural areas with sc	me facilities
C Large wilderness areas with limited trails and camp-sites	Rural areas		
Semi-wilderness areas with limited motorized access	🔵 Urban areas (e	.g. villages, towns, citie	es)
The following questions ask about the degree of s	atisfaction with you	ur visit to Vancouve	er Island.
With 1 being not satisfied at all and 5 being very satisfied, how well did this visit to Vancouver Island meet your expectations? Not satisfied Not satisfied 1 2 3 4 5 1 2 3	by at all and 5 w likely is it that you ncouver Island as to family/friends? Very Wery 4 5	With <b>1 being not like</b> <b>being very likely</b> , ho you will return to Van for vacation again in t <b>Not</b> L <sup>INEN</sup>	ely at all and 5 w likely is it that couver Island the future?
<ul> <li>Please list up to three positive aspects about your visit to Vancouver Island that might influence your decision <i>to return in the future.</i></li> <li>1.</li> <li>2.</li> <li>3.</li> </ul>	Please list up to the visit to Vancouver I decision <i>not to ret</i> 1. 2. 3.	ree negative aspects a sland that might influer <i>urn in the future.</i>	bout your nce your

The following questions ask for your opinions and beliefs about forest management and recreation.		
Listed below are statements expressing different views about forestry and tourism. Please indicate your level of agreement with each option. If you feel you do not know enough about a particular statement of don't have an opinion about a statement, select the <b>DON'T KNOW/NOT APPLICABLE</b> box.	Strongy Agree Agree Neither Agree Disagree Strongy Disagree Strongy Disagree Vor Applicable Vor Applicable	
When visiting destinations that market the natural environment I expect to see unspoiled wilderness.	000000	
Forestry activities in natural areas provides additional access for outdoor recreation.	000000	
I expect to see evidence of forestry activities in destinations that market the natural environment.	000000	
Special care should be taken to ensure that forestry does not impact upon the recreational values of natural areas.	000000	
When visiting destinations that market the natural environment, evidence of forestry activities negatively affects my experience.	000000	
When participating in outdoor recreational activites my main focus is on the activity rather than the scenic values of the setting.	000000	
Evidence of forestry activities in destinations that market the natural environment has very little impact on my experience.	000000	
When participating in outdoor recreational activities I prefer unspoiled wilderness.	000000	
In destinations that market the natural environment forests should be preserved for their tourism values.	000000	
Evidence of forestry activities near recreational areas has very little impact on my experience.	000000	
Development of forest resources is necessary, even in destinations that market the natural environment.	000000	
Observing evidence of forestry activities in natural areas while participating in outdoor activities negatively affects my experience.	000000	

# The following questions ask about your encounter's with forestry activities as a tourist to Vancouver Island.

Please indicate which forestry impacts/a Vancouver Island. For each one observe it affected your perception of Vancouver	ctivities you obse ed, please indicat Island as a touris	erved as a te the de t destina	a tourist to gree to which tion.	ative	tive
	Observe	d?		Nege	80511
Harvested areas	OYes (	) No	If Yes, degree of impact	123	4 5
Tree plantations	OYes (	⊃ No	If Yes, degree of impact	123	4 5
Logging trucks	OYes (	) No	If Yes, degree of impact	123	4 5
Saw/pulp mills	OYes (	⊃ No	If Yes, degree of impact	123	4 5
Other (please specify)	_ OYes (	) No	If Yes, degree of impact	123	45/

The following questions ask for your opinions about the management of forests on Vancouver Island.			
Listed below are possible options for the management of Vancouver Island's forests. Please indicate your level of agreement with each option. If you feel you do not know enough about a particular statement of don't have an opinion about a statement, select the <b>DON'T KNOW</b> box.	Strongy Agree Agree Neither Agree Disagree Strongy Disagree Strongy Disagree Don't Know		
Make no changes to forest management practices, as forestry has minimal impact on scenic views.	000000		
Limit timber harvesting near roadways to preserve scenic views along transportation routes.			
Limit timber harvesting near recreational areas to preserve scenic views at these sites.	000000		
Heavily restrict timber harvesting throughout all areas of Vancouver Island to preserve scenic views.	000000		
Ban timber harvesting throughout all areas of Vancouver Island to preserve scenic views.	000000		

#### The following questions ask about your opinions and beliefs about global sustainability issues.

Listed below are statement's expressing different views about the environment. Please indicate your level of agreement with each statement.	Strongy Agree Milay Agree Unsure Milay Disagree Strongy Disagree			
We are approaching the limit of the number of people the earth can support.	$\bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc$			
Humans have the right to modify the natural environment to suit their needs.	$\bigcirc \bigcirc $			
When humans interfere with nature it often produces disastrous consequences.	$\bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc$			
Human ingenuity will insure that we do NOT make the earth unlivable.	$\bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc$			
Humans are severely abusing the environment.	$\bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc$			
The earth has plenty of natural resources if we just learn how to develop them.	$\bigcirc \bigcirc $			
Plants and animals have as much right as humans to exist.	$\bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc$			
The balance of nature is strong enough to cope with the impacts of modern industrial nations.	$\bigcirc \bigcirc $			
Despite our special abilities humans are still subject to the laws of nature.	$\bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc$			
The so-called "ecological crisis" facing humankind has been greatly exaggerated.	$\bigcirc \bigcirc $			
The earth is a closed system with very limited room and resources.	$\bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc$			
Humans were meant to rule over the rest of nature.	$\bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc$			
The balance of nature is very delicate and easily upset.	$\bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc$			
Humans will eventually learn enough about how nature works to be able to control it.	$\bigcirc \bigcirc $			
If things continue on their present course, we will soon experience a major ecological catastrophe.	00000			
	The following question	ons ask about yo	ur visit to Vancouv	ver Island.
---------------------------------------	---	---	--	--
Please explain th Vancouver Island	ne main purpose of your trip 1.	to	Please list some of have visited during	the other attractions that you this trip to Vancouver Island.
The followin	ig questions ask about in any way.  Please ren	you. Your answe nember, your ans	ers to these questi wers will be kept o	ons will not identify you confidential.
Before this trip, ho	w many times had you visite	ed Vancouver Island	in the past?	
Please indicate the	e name of the city and coun	try that vou are visit	ng from. <i>citv</i>	country
Gender: 🔵 Mal	e 🔘 Female 🛛 \	What year were you	were born in?	
What is the highes	t level of education that you	have completed?	Please check one.	
Some	High School O Some	University/College sity/College Degree	Graduate de	gree 
Have you ever be	en employed by or voluntee	red with a conserva	tion organization (Ple	ase provide details below)?
Please check the	category that best describe	s your household in	come <b>before taxes</b> la	ast year.
○ <\$10,0	000 \$30,00	0 - \$39,999	\$60,000 - \$69,999	\$90,000 - \$99,999
\$10,00	0 - \$19,999 🔘 \$40,00	0 - \$49,999	\$70,000 - \$79,999	\$100,000 - \$149,999
\$20,00	0 - \$29,999 () \$50,00	0 - \$59,999	\$80,000 - \$89,999	>\$149,999
Please use this s Vancouver Island	pace for any additional co	omments that you I	nave about the touri	sm or forestry industries on

# Appendix B Tasmania Questionnaire & Consent Information



# TASMANIA TOURISM SURVEY CONSENT INFORMATION

Kyle Hilsendager PhD Candidate Forest Resources Management Faculty of Forestry University of British Columbia Email: Howard Harshaw Research Associate Forest Resources Management Faculty of Forestry University of British Columbia Email:

Greetings,

We are asking for your input in an important study about tourism in Tasmania, Australia

## PURPOSE

The purpose of this research is to examine the conflict that exists between forestry and tourism in regions that market the natural environment and activities that take place in these settings. The results of this survey will help provide insight into the ways that different tourist user groups are affected by the impacts of forest management practices. This particular survey collects information about:

- Opinions about Tasmania as a tourist destination.
- Encounters with forestry impacts while visiting Tasmania.
- Opinions regarding potential forest management options in Tasmania.
- Attitudes about the environment.
- Demographic information.

This project will help contribute to our understanding about the conflict that may exist between forestry and tourism. Overall results will be shared publicly and may be used to guide discussions and develop policies to address issues regarding forestry and tourism. Upon completion of this study, results of this research will be made available at:

#### www.hd-research.ca/tourism

## **STUDY PROCEDURES**

This survey will take approximately 10-15 minutes to complete. Please take your time as you consider your answers to the questions. Remember there are no right or wrong answers. If not enough space is provided for your answer, feel free to use the extra space provided at the end of the questionnaire. Please, return the completed survey to the research assistant that originally gave it to you.

## CONFIDENTIALITY

Your identity will be kept strictly confidential. You will not be identified by name in any reports resulting from the completed study. All documents will be identified only by a code number and kept in a locked filing cabinet and a password protected computer file. The data that is collected in this research project will be kept for future use regarding public opinions and beliefs about tourism and forestry conflicts. **Please do not write your name anywhere on the questionnaire. Individual responses will not be made available to anyone outside the research team.** 

## **CONTACT INFORMATION**

If you have any questions about the research, or would like further information, please do not hesitate to contact Mr. Hilsendager at the phone number listed at the top of this letter. If you have any concerns about your rights or treatment as a research subject, you may contact:

UBC Office of Research Services Research Subject Information Line

## CONSENT

Participation in this study is completely voluntary, and you may refuse to participate at any time without penalty. You may skip any question if you not feel comfortable answering it, though we encourage you to complete all questions if possible. By completing and returning this survey, you grant your consent to participate in this study.

Thankyou for your help with this important study.

Sincerely,

Kyle Hilsendager

# Tourism & Forestry Survey



## a place of mind

THE UNIVERSITY OF BRITISH COLUMBIA

**Note:** All survey respondents are required to be at least 18 years of age. Therefore, individuals under the age of 18 are not permitted to complete this questionnaire.

The following questions ask about your opinions of Tasmania as a tourist destination.		
With <b>1 being not important</b> and <b>5 being very important</b> , please indicate the degree of importance each of the activities/attractions are to you, when thinking about tourism in Tasmania.	Not important very important	
Parks and protected areas	1 2 3 4 5	
Local wine, beer, etc.	1 2 3 4 5	
Unique/rare animals	1 2 3 4 5	
Nightlife/entertainment	1 2 3 4 5	
Quality restaurants	1 2 3 4 5	
Nature-based tours	1 2 3 4 5	
Camping	1 2 3 4 5	
Unique/rare plants	1 2 3 4 5	
Fishing	1 2 3 4 5	
Festivals, concerts, markets, museums, etc.	1 2 3 4 5	
Colonial era history/structures	1 2 3 4 5	
Quality accommodation	1 2 3 4 5	
Diving/snorkeling	1 2 3 4 5	
Tourist information centres	1 2 3 4 5	
Natural scenery	1 2 3 4 5	
Mild weather	1 2 3 4 5	
Convict history	1 2 3 4 5	
Local food	1 2 3 4 5	
Hiking	1 2 3 4 5	
Transportation Networks	1 2 3 4 5	

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The following questions ask about your opinion	ns of Tasmania as a tourist destination.
Listed below are things that commonly motivate individuals to ta <b>1 being not important</b> and <b>5 being very important</b> , please ind to which each item motivated you to take this vacation to Tasma	ake vacations. With dicate the degree ania. Not the very hypoton
To escape daily routine	1 2 3 4 5
Intellectual improvement	1 2 3 4 5
Go to fashionable places	1 2 3 4 5
To experience different cultures/ways of life	1 2 3 4 5
To do exciting things	1 2 3 4 5
Rest and relaxation	1 2 3 4 5
To experience new/different places	1 2 3 4 5
To seek diversion and entertainment	1 2 3 4 5
To alleviate stress and tension	1 2 3 4 5
Tell friends about experiences while on vacation	1 2 3 4 5
Go to places that friends have not visited	1 2 3 4 5
Seek adventure and pleasure	1 2 3 4 5
Which settings do you most prefer when participating in outdoor	r recreational activities? Check all that apply.
C Large undisturbed wilderness areas	Easily accessed natural areas with some facilities
C Large wilderness areas with limited trails and camp-sites	─ Rural areas
Semi-wilderness areas with limited motorized access	Urban areas (e.g. villages, towns, cities)
The following questions ask about the degree of	of satisfaction with your visit to Tasmania.
With 1 being not satisfied at all and 5 being very satisfied, how well did this visit to Tasmania meet your expectations? Not satisfied Not satisfied	y at all and 5 / likely is it that I Tasmania as a family/friends?
to return in the future. 1. 2. 3.	not to return in the future. 1. 2. 3.

The following questions ask for your opinions and beliefs about for recreation.	prest management and
Listed below are statements expressing different views about forestry and tourism. Please indicate your level of agreement with each option. If you feel you do not know enough about a particular statement of don't have an opinion about a statement, select the <b>DON'T KNOW/NOT APPLICABLE</b> box.	Strongy Agree Agree Patty Agree Disagree Strongy Disagree Vor Applicable Vor Applicable
When visiting destinations that market the natural environment I expect to see unspoiled wilderness.	000000
Forestry activities in natural areas provides additional access for outdoor recreation.	000000
I expect to see evidence of forestry activities in destinations that market the natural environment.	000000
Special care should be taken to ensure that forestry does not impact upon the recreational values of natural areas.	000000
When visiting destinations that market the natural environment, evidence of forestry activities negatively affects my experience.	000000
When participating in outdoor recreational activites my main focus is on the activity rather than the scenic values of the setting.	000000
Evidence of forestry activities in destinations that market the natural environment has very little impact on my experience.	000000
When participating in outdoor recreational activities I prefer unspoiled wilderness.	000000
In destinations that market the natural environment forests should be preserved for their tourism values.	000000
Evidence of forestry activities near recreational areas has very little impact on my experience.	000000
Development of forest resources is necessary, even in destinations that market the natural environment.	000000
Observing evidence of forestry activities in natural areas while participating in outdoor activities negatively affects my experience.	000000

## The following questions ask about your encounter's with forestry activities as a tourist to Tasmania

Please indicate which forestry impacts/	activities you observed as a	tourist to bich it		
affected your perception of Tasmania a	s a tourist destination.		ative	itive
	Observed?		Negr	8051
Harvested areas	OYes ONo	If Yes, degree of impact	123	4 5
Tree plantations	OYes ONo	If Yes, degree of impact	123	4 5
Logging trucks	🔿 Yes 🔾 No	If Yes, degree of impact	123	4 5
Saw/pulp mills	OYes ONo	If Yes, degree of impact	123	4 5
Other (please specify)	O Yes O No	If Yes, degree of impact	123	4 5

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#### The following questions ask for your opinions about the management of forests in Tasmania.

l below are possible options for the management of ania's forests. Please indicate your level of agreement with option. If you feel you do not know enough about a particular nent of don't have an opinion about a statement, select the <b>T KNOW</b> box.	Strongly Agree	Party Agree/Disagree Disagree Str	Don't Know	
ke no changes to forest management practices, as forestry has minimal act on scenic views.	$\bigcirc \bigcirc \bigcirc$			
it timber harvesting near roadways to preserve scenic views along sportation routes.	$\bigcirc \bigcirc \bigcirc$			
it timber harvesting near recreational areas to preserve scenic vs at these sites.	$\bigcirc \bigcirc \bigcirc$			
avily restrict timber harvesting throughout all areas of Tasmania to serve scenic views.	$\bigcirc \bigcirc \bigcirc$			
timber harvesting throughout all areas of Tasmania to preserve scenic vs.	$\bigcirc \bigcirc \bigcirc$			

#### The following questions ask about your opinions and beliefs about global sustainability issues.

Listed below are statement's expressing different views about the environment.
Please indicate your level of agreement with each statement.

Listed below are statement's expressing different views about the environment. Please indicate your level of agreement with each statement.	Strongy Agree Mildy Agree Unsure Mildy Disagree Strongy Disagree Strongy Disagree
We are approaching the limit of the number of people the earth can support.	$\bigcirc \bigcirc $
Humans have the right to modify the natural environment to suit their needs.	$\bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc$
When humans interfere with nature it often produces disastrous consequences.	$\bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc$
Human ingenuity will insure that we do NOT make the earth unlivable.	$\bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc$
Humans are severely abusing the environment.	$\bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc$
The earth has plenty of natural resources if we just learn how to develop them.	$\bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc$
Plants and animals have as much right as humans to exist.	$\bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc$
The balance of nature is strong enough to cope with the impacts of modern industrial nations.	$\bigcirc \bigcirc $
Despite our special abilities humans are still subject to the laws of nature.	$\bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc$
The so-called "ecological crisis" facing humankind has been greatly exaggerated.	$\bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc$
The earth is a closed system with very limited room and resources.	$\bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc$
Humans were meant to rule over the rest of nature.	$\bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc$
The balance of nature is very delicate and easily upset.	$\bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc$
Humans will eventually learn enough about how nature works to be able to control it.	$\bigcirc \bigcirc $
If things continue on their present course, we will soon experience a major ecological catastrophe.	00000

The f	ollowing questions ask about your visit to Tasmania.
Please explain the main purpo Tasmania.	se of your trip to Please list some of the other attractions that you have visited during this trip to Tasmania.
The following questions in any way.	s ask about you. Your answers to these questions will not identify you Please remember, your answers will be kept confidential.
Before this trip, how many times	had you visited Tasmania in the past?
Please indicate the name of the	city and country that you are visiting from. <i>city country</i>
Gender: O Male O Fem	ale What year were you were born in?
What is the highest level of edu	cation that you have completed? Please check one.
Some High School	Some University/College Post graduate degree
High School	University/College Degree O Other (specify):
What is your occupation? If you please state this and list your fo Have you ever been employed	are a homemaker or a student, please state this. If you are retired or unemployed, mer occupation.
Please check the category that	best describes your household income <b>before taxes</b> last year.
< \$10,000	\$30,000 - \$39,999 \$60,000 - \$69,999 \$90,000 - \$99,999
\$10,000 - \$19,999	S40,000 - \$49,999
\$20,000 - \$29,999	S50,000 - \$59,999 ○ \$80,000 - \$89,999 ○ >\$149,999 ○
Please use this space for any Tasmania.	additional comments that you have about the tourism or forestry industries in

# Appendix C Interview Contact Letter, Consent Form & Script



[Date]

[Address of Potential Interviewee] [Address] [Address] [Address]

#### Re: Environmental and Resource Use Conflicts in British Columbia and Tasmania

Dear [Name]:

Due to your involvement in the tourism [forestry] industry in Vancouver Island [Tasmania], I am writing to invite you to participate in a research project that is being conducted through the University of British Columbia (UBC), Vancouver.

This project seeks to improve our understanding about the conflicts that can arise between forestry and tourism, as well as develop strategies that can be used to help mediate these types of conflicts.

In accomplishing these objectives, we seek to understand the impact that forestry may have on the tourism image of regions that market the natural environment and outdoor activities. In addition to this, we intend to develop strategies that can be used to help reduce the likelihood of tourism values being compromised by other forest interests. It is expected that the results of this study will provide a number of benefits to both governments and business in regions where tourism and forestry conflict.

We are hoping that you will agree to a confidential interview which will be conducted by Mr. Hilsendager. The interview is expected to last approximately 30 minutes – 1 hour. This interview would take place at the time and place of your convenience if you would like to participate in this research.

A consent form for your participation is enclosed for your review. Mr. Hilsendager will be contacting you by phone to see if you would like to participate in this research. If you would like to participate a time and location will be arranged during this phone call. You may also ask any questions that you may have regarding this project at this time. Questions may also be directed to Principal Investigator, Howard Harshaw. Please see the end of this letter, where all relevant contact information is included.

At your scheduled interview time, the enclosed consent form will be reviewed again with Mr. Hilsendager, at which point you may ask any further questions that you may have. If you would still like to be interviewed, you will be asked to sign the consent form at that time and retain a copy for yourself.

Through your participation you will have contributed toward greater understanding of the conflicts that can originate between the forest and tourism industries.

We look forward to hearing from you.

Best Regards,

Mr. Kyle Hilsendager

Title: PhD Candidate Address: Department of Forest Resources Management, Faculty of Forestry The University of British Columbia 2nd Floor, Forest Sciences Centre #2045 - 2424 Main Mall Vancouver, BC V6T 1Z4. Phone: E-mail: Dr. Howard Harshaw

Title: Research Associate Address: Department of Forest Resources Management, Faculty of Forestry The University of British Columbia 2nd Floor, Forest Sciences Centre #2045 - 2424 Main Mall Vancouver, BC V6T 1Z4. Phone: E-mail:



# **Consent Form**

## for participation in the study: Environmental and Resource Use Conflicts in British Columbia and Tasmania.

#### 1. Principal Investigator

Dr. Howard Harshaw Research Associate Department of Forest Resources Management, Faculty of Forestry Phone Number: E-mail Address:

#### 2. Co-Investigator

Name: Kyle Hilsendager Ph.D. Candidate Department of Forest Resources Management, Faculty of Forestry Phone Number: Email Address:

This research is a requirement of Kyle Hilsendager's Ph.D. degree in the Faculty of Forestry, Department of Forest Resource Management at UBC. The final outcome will be the production of a Ph.D. thesis, which will become available in the public domain. The identity of all participants will remain strictly confidential. Data or expressions made public will not be traceable to the original provider.

#### 3. Sponsor

The investigators have not received a grant or contract to conduct this study.

#### 4. Purpose

In many places the forest industry is the target of criticism from environmental groups, politicians and the media. This opposition generally relates to a range of environmental issues that are associated with the industry such as the harvesting of old growth or ecologically significant forests, development of logging roads, potential threats posed to native species and sustainability of harvesting

techniques. Not only do public perception issues have the potential to negatively affect the forest industry, but it could also have negative effects for other sectors that profit from forested landscapes, such as tourism.

This is particularly true for regions that promote natural landscapes and outdoor activities to attract business to local communities. Because these places use the natural environment to attract visitors, it is likely that they are particularly vulnerable to the negative perceptions that are often associated with forestry impacts. This raises the question: how can these two industries be managed to reduce the impact that forestry activities can have on tourism image?

#### 5. Objectives

The main objectives of this study are to understand the tensions that often exist between forestry and tourism, and to uncover measures that can be taken to alleviate these types of conflicts.

In accomplishing this objective, we seek to understand the root causes of conflicts that exist between tourism and forestry, as well as possible management policies and techniques that could be used to alleviate such conflicts.

#### 6. Interview Participation and Conditions

The research team has determined interviews to be the most effective and reliable means to gather the required information. Therefore, you have been invited to participate, due to your involvement in Vancouver Island's [Tasmania's] forestry [tourism] industry.

If you agree to participate, you may contact Kyle Hilsendager (contact details above) to arrange an interview time and location of your choice.

#### 7. Interview Procedures

It is expected that the interview will last between 30 minutes – 1 hour. The interview will include semi structured, open-ended questions, which means that you will have liberty to respond unconstrained. You have the right to refuse any question asked without providing a reason or stop the interview at any point without stating grounds.

Once interviews with all participants are completed, Mr. Hilsendager will work at the UBC campus in Vancouver to analyze the material and develop an initial report on findings.

#### 8. Audio Recordings

All interviews will be audio-recorded. These will later be translated into computer text documents which will be used for data analysis. All recordings will be destroyed upon completion of the text documentation.

#### 9. Statement of Confidentiality

Interview transcripts and digital recordings will be saved on a hard disk drive, which is protected by firewalls and passwords and saved in a locked room, with Dr. Harshaw and Mr. Hilsendager having sole access to the data. No data that identifies individuals be available to persons or agencies outside of the University.

All interviews will be identified by code numbers. In none of the reports or articles of the completed study made publicly available, will your identification be traceable.

#### **10. Potential Benefits**

The outcome of the research may not provide any direct, measurable benefit to you. However, through this research you will contribute greater external, and perhaps internal, understanding of this resource management conflict. This would be of further benefit to other parties facing similar challenges.

#### 11. Contact for information about the study

If you have any questions or desire further information with respect to this study, you may contact Dr. Harshaw or Mr. Hilsendager by phone or email at the details provided above.

#### 12. Contact for concerns about the rights of research subjects

If you have any concerns about your treatment or rights as a research subject, you may contact the Research Subject Information Line in the UBC Office of Research Services at 604-822-8598 or if long distance e-mail to RSIL@ors.ubc.ca.

#### 13. Study Results

The results of this study will be a completed Ph.D. thesis and journal articles in scientific publications. Overall results will be shared publicly and may be used to guide discussions and develop policies to address issues regarding forestry and tourism. Upon completion of this study, results of this research will be made available at:

#### www.hd-research.ca/tourism

Your signature below indicates that you have received a copy of this consent form for your own records.

Your signature indicates that you consent to participate in this study.

Subject Signature

Date

Printed Name of the Subject signing above

#### **Questions/Topics**

#### Section 1: Introductory

- What is your current position and responsibilities?
- How long have you been at this position/within this organization?
- How long have you lived in this region?
- How did you come to work in this industry?
- How did you come to work in this particular region?

#### Section 2: Forestry/Tourism Conflicts

- How does forestry activity affect tourism in this area? What type of effect does it have?
- How does the tourism industry affect forestry in this area? What type of effect does it have?
- What is your perception of the relationship that exists between forestry and tourism in your area? Is it positive or negative? Why do you think this?
- Can you think of any specific examples where forestry has had an undesirable effect upon tourism in your area? What was the root cause of this?
- What measures were taken to alleviate this situation? What was the end result? What future changes could have potentially improved this result.
- Can you think of any ways in which this situation could have been avoided?

#### Section 3: Forestry/Tourism Conflict Resolutions

- Can you think of any ways in which government policy could be improved to foster the relationship between forestry and tourism?
- Can you think of any ways in which the tourism and forestry industries could work to improve the relationship between these two sectors?