Impacts of protected areas on adjacent communities: An examination of attitudes and perceptions towards Pacific Rim National Park Reserve

by

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B.Comm., University of Guelph, 2007

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Supervisory Committee

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Abstract

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Protected areas, such as national parks, can provide nearby communities with a wide range of environmental, social, and economic benefits, such as ecosystem services and tourism development. However, protected areas can also subject communities to a number of costs, such as displacement and an increase in negative human-wildlife interactions.

This study investigates how the communities of Tofino and Ucluelet, British Columbia, Canada perceive they have been impacted by Pacific Rim National Park Reserve (PRNPR). Specific areas of focus include respondents' attitude and level of support for PRNPR and their perceptions of concerns and benefits related to the park. Data for this study was collected using a focus group and questionnaire administered using the "drop-off" method.

The results of this study suggest that residents of Tofino and Ucluelet generally have a positive attitude towards the park and perceive PRNPR subjects their communities to a number of concerns and benefits. It was found that attitudes were linked to perceived concerns and benefits, perceived changes in the

community, and level of involvement with PRNPR. With regards to concerns and benefits, it was found that respondents were most concerned with financial costs related to PRNPR and most valued benefits related to conservation.

Table of Contents

List of Tables

List of Figures

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Chapter 1 Introduction

1.1 Introduction

Protected areas, such as national parks, can provide nearby communities with a wide range of benefits, including biodiversity conservation, ecosystem services, and tourism (Coad et al., 2008). However, the establishment of protected areas can also subject adjacent communities to a number of costs, such as restricted access to natural resources, displacement, and an increase in negative human-wildlife interactions (Coad et al., 2008). Many of these issues have received considerable attention in the developing countries in Africa (e.g. Hartter & Goldman, 2010) and Asia (e.g. Allendorf, 2007). However, relatively little attention has been given to these issues in more developed "western" nations (e.g. Fortin & Gagnon, 1999).

As such, this study was designed to investigate attitudes and perceptions of Pacific Rim National Park Reserve (PRNPR) in the adjacent communities of Tofino and Ucluelet, Vancouver Island, British Columbia, Canada. This introductory chapter seeks to (1) provide a rationale for this thesis, (2) introduce the study area, (3) outline the research questions that underpin this study, (4) situate this thesis within the discipline of Geography, (5) emphasize the connections between this research and the Protected Areas and Poverty Reduction Research Alliance (PAPR), and (6) provide an overview of thesis organization.

In the protected area literature there has been a great deal of discussion regarding the use of protected areas as a tool for community development. Traditionally, protected areas have focused on conserving iconic landscapes and the

unique flora and fauna contained within them (see Phillips, 2003). In the past it was thought that the only way to effectively achieve conservation goals was to remove all human influences from inside protected area boundaries (Kalamandeen & Gillson, 2006). However, in recent decades some have challenged this view, and argued that protected areas should also focus on improving the wellbeing of those living nearby (see Phillips, 2003). These approaches to protected area management are significantly different, as the first focuses on conservation and the second on development, and have been categorized as the "classic" and "new" paradigms (Phillips, 2003).

Protected areas run under the "classic" paradigm can be characterized as being "islands" or "fortresses" run by a central government or organization, set aside for conservation, managed for visitors and tourists, and managed to exclude local people (Phillips, 2003; Kothari, 2008). This approach to protected area management can be problematic as the areas under protection are often too small to conserve biodiversity and often ignore activities that occur outside of protected area boundaries that may reduce conservation effectiveness (Crofts, 2004).

In contrast, protected areas managed according to the "new" paradigm can be characterized as being run with, or by, local people and other partners, focused on social and economic objectives in addition to conservation objectives, managed to help meet the needs of local people, and planned as part of a larger network of protected areas (Phillips, 2003). One of the main strengths of the "new paradigm" is that it takes an ecosystem based management approach to protected area management by working with adjacent communities, land owners, and other

stakeholders to extend conservation efforts beyond park boundaries. However, one of the main concerns with this approach is that overall conservation effectiveness may be compromised by focusing more on social and economic objectives and devolving management responsibilities and decision making to local people and organizations (Phillips, 2003; Locke & Dearden, 2005).

Both the "classic" and "new" paradigms, and their related management concepts, have different impacts on the people who live near protected areas. Protected areas managed under the "classic paradigm" may subject residents of local communities to costs such as displacement and restricted access to important livelihood resources while providing benefits such as ecosystem services and tourism. Whereas areas managed under the more socially focused "new paradigm" may provide residents of adjacent communities with benefits such as economic development from tourism and permit local people to sustainably harvest natural resources.

The literature suggests protected areas can provide adjacent communities with a range of environmental, economic, and social costs and benefits. For example, previous research has demonstrated that people value living near protected areas as they can provide people with environmental benefits such as increased hunting and wildlife viewing opportunities (Tessema, Lilieholm, Ashenafi, & Leader-Williams, 2010), ecosystem services (e.g. clean water and climate regulation) (Hartter & Goldman, 2010), and bequest values (e.g. preservation of nature for future generations) (Fiallo & Jacobson, 1995).

With regards to costs, protected area establishment may result in communities and indigenous peoples being expelled from inside park boundaries and resettled elsewhere (Cernea & Schmidt-Soltau, 2006). In addition, restrictions may be placed on harvesting natural resources that are relied upon by local people for subsistence and a portion of their income (Wells, 1992; Fortin & Gagnon, 1999; Archabald & Naughton-Treves, 2001; Brockington, 2004; Shrestha & Alavalapati, 2006; Coad et al., 2008).

To date, much of the literature on community perceptions of the costs and benefits associated with protected areas has focused on developing countries in Africa and Asia. However, few studies have focused on this relationship in developed nations, such as Canada. By investigating perceptions and attitudes in a Canadian context this study (1) contributes new information to the international literature focused on the relationship between protected areas and adjacent communities, (2) provides an example of how conservation initiatives and community development interact in a Canadian context, and (3) identifies perceived concerns and benefits in two communities near PRNPR that can by addressed by Parks Canada.

1.2 The Study Sites

Pacific Rim National Park Reserve is located on the west coast of Vancouver Island in British Columbia, Canada and protects over 51,000 ha of terrestrial and marine environments (see figure 1.1).

Figure 1.1 Map of the Study Area

(Parks Canada, 2010b)

The park was established in 1970 in an effort to protect the unique flora and fauna found in "the coastal lowland forests of the Pacific Coast Mountain Region" and "near-shore waters of the Vancouver Island Shelf" (Parks Canada, 2010b, p. 5). The area's climate is characterized by cool yet sunny summers and mild but intensely stormy winters, with an average annual precipitation of 330 cm (ibid).

The park is comprised of three geographically distinct units, the Long Beach Unit (LBU), the Broken Group Islands Unit (BGI), and the West Coast Trail Unit (WCT). Each unit is unique in that they provide a different type of recreational experience that is likely to attract different user groups (Parks Canada, 2010b). The WCT and the BGI units present visitors with challenging multiday "back-country" experiences, while the LBU presents users with a more accessible "front-country" type experience.

The LBU comprises the northern portion of PRNPR and is located between the communities of Tofino and Ucluelet, the study sites for this research.
The LBU is the most heavily visited area of the park receiving more than 750,000 visitors annually (Parks Canada, 2010b). The LBU offers visitors the opportunity to engage in a number of recreational activities such as exploring the vast expanse of sandy beaches that cover Wickaninnish Bay, hiking in a temperate rain forest, surfing, or learning about the area through interpretive displays.

Since PRNPR was established in 1970 the surrounding communities of Tofino and Ucluelet have undergone dramatic economic transformations. Since their establishment, both communities have focused on harvesting timber, minerals, and a number of fish species for economic gain. However, in recent decades the

communities have transitioned away from the "boom and bust" nature of traditional resource based economies and embraced tourism development.

Ucluelet, which was originally settled as a trading post, has focused on economic activities related to natural resource extraction since its establishment in the 1870's (Tourism Ucluelet, n.d.). The commercial fishing industry in Ucluelet began to develop several decades later in the early 1900's and became a major part of the local economy by the end of the First World War (Stewart, 2000a). In the years following the Second World War the community also experienced significant growth in the logging and mining industries in the 1950's and 1960's respectively (Stewart, 2000b).

The history of Tofino is similar to that of Ucluelet, with the first European settlement in the Tofino area occurring around the same time in the form of a trading post on Stubbs Island. The actual Tofino town site was established at a later date, in 1909, across the inlet from the original settlement (Wickaninnish Inn, N.D.). Much like Ucluelet, Tofino's economy has historically been tied to fishing, logging, and mining for most of the 20th century (see Vodden & Kuecks, 2003).

Tofino also has a history of being involved in the tourism industry with early travelers visiting the village as early as 1913 on the steam ship Princess Maquinna (Wickaninnish Inn, N.D.). During the early 1960's the town and surrounding beaches attracted a number of "adventure seekers including surfers, conscientious objectors, and those looking to "drop out" of society" (Parks Canada, 2010b, p.8).

Over the past 50 years both Tofino and Ucluelet have undergone significant economic changes spurred, at least in part, by the completion of a paved road

linking the communities to the rest of Vancouver Island in 1972 and the collapse of traditional resource based industries. The area currently receives close to 1 million visitors annually, 750,000 of whom visit PRNPR, and is now a major tourism destination (Parks Canada, 2010b). Visitors to the park are primarily Canadian and live within a day's drive of PRNPR (Parks Canada, 2010b). With little commercial development being allowed in the national park, the tourism industries in Tofino and Ucluelet have grown substantially since park establishment. The communities now provide visitors with a wide range of accommodations, food services, and the opportunities to engage in recreational activities such as whale watching, surfing, and hiking.

The increase in tourism in the area has helped both communities recover from a sharp decrease in employment in forestry and commercial fishing that occurred in the 1980's and 90's. Dramatic reductions in employment in commercial fishing occurred largely due to the collapse of local salmon stocks, which led to a subsequent decline in the local commercial fishing fleet and the associated processing facilities (see Vodden & Kuecks, 2003). In Ucluelet, this downturn resulted in 60% of local fisherman losing their commercial fishing licenses (Dai, 2006).

Both communities also experienced a significant reduction in economic activities related to logging due to a prolonged and high profile peaceful civil protest against the logging industry that resulted in a ban on logging the old growth forests of Clayoquot Sound in 1993 (Parks Canada, 2010b). Although the protests resulted in an increase in conservation efforts in the area and international media exposure

for the district of Tofino, it also resulted in a loss of approximately 300 forestry jobs in Ucluelet (Dai, 2006).

Tofino's economy is now largely tourism based as the community receives hundreds of thousands of visitors each year (see Vodden & Kuecks, 2003). Like Tofino, Ucluelet has also experienced an increase in tourism but not to the same extent. For Ucluelet, logging and fishing are still considered to be key economic activities, along with tourism (Ucluelet Chamber of commerce, 2000).

While this discussion suggests that PRNPR provides adjacent communities with a number of benefits, such as income and revenue related to tourism and ecosystem services, it is unclear how these benefits are distributed and perceived. Furthermore, there is little information how the residents of adjacent communities have been negatively affected by living near PRNPR.

1.3 Study Objectives

This study seeks to identify how the communities of Tofino and Ucluelet, British Columbia, Canada have been impacted by PRNPR by addressing the following research questions:

1. What is the attitude and level of support for PRNPR amongst residents of Tofino and Ucluelet?
2. How do residents of Tofino and Ucluelet perceive they benefit from living near PRNPR?
3. How do residents of Tofino and Ucluelet perceive they are subjected to concerns as a result of living near PRNPR?
4. How do perceptions of concerns and benefits differ between residents of Tofino and Ucluelet?
5. How has PRNPR shaped livelihoods in Tofino and Ucluelet?

In answering these questions this study contributes new information to the existing literature on community perceptions of protected areas by describing perceptions in a Canadian context, which to date has received little attention. This research will also provide Parks Canada with information that may help managers at PRNPR better understand residents concerns associated with living near a Canadian national park and contribute to park management activities related to ecosystem based management.

1.4 Geographical Context

This thesis has been written as part of the requirements for a Masters of Arts degree in the field of geography; therefore it is important to consider how this research relates to the discipline of geography. While the literal definition of the word geography is "to describe or write about the Earth", the discipline itself is extremely diverse and difficult to concisely define. This diversity largely stems from the fact that geography is comprised of two distinct sub-disciplines, human and physical geography. The discipline is considered to be one that is integrative in that it “brings together the physical and human dimensions of the world in the study of people, places, and environments” (see Sharpe, 2009, p. 124).

This research is based in social science in that it investigates people’s perceptions, attitudes, and use of PRNPR and is closely related to human geography, which can be defined as "the spatial differentiation and organization of human activity and its interrelationships with the physical environment" (Johnston et al., 2000, p. 353). This study incorporates all aspects of geography mentioned above. First, this research is place-based as it focuses on PRNPR and the adjacent

communities of Tofino and Ucluelt. Second, by examining attitudes and perceptions of PRNPR this research is focused on the relationship between people and their environment. Third, by collecting information on local residents use of PRNPR this research also has a spatial dimension.

1.5 Connections to the Protected Areas and Poverty Reduction (PAPR) Project

A brief discussion of how this research relates to the PAPR project is essential as this research was designed to address one of the four key thematic areas being investigated by the research alliance. PAPR is a project that focuses on improving wellbeing and environmental sustainability in the communities adjacent to protected areas. The project is interested in investigating issues related to (1) costs and benefits of protected areas for adjacent communities, (2) human-wildlife interactions in and around protected areas, (3) alternative approaches to protected area governance that improve both wellbeing and conservation agendas, and (4) finding ways to improve the flow of new and existing protected area knowledge between stakeholder groups (Murray, 2008).

Research related to the four thematic areas is being conducted by PAPR team members in study sites across Canada, Ghana, and Tanzania. In Canada, the project focuses on the communities near PRNPR and the Tla-o-qui-aht First Nation Tribal Parks. In Ghana, research activities are concentrated around Bui National Park, Mole National Park and the Avu Lagoon Community Protected Area. In Tanzania, PAPR research is being conducted in the communities adjacent to Serengeti and Saadani National Park.

This research is directly related to the PAPR research agenda as it investigates perceptions of concerns and benefits related to PRNPR, one of the Canadian PAPR study sites, in the adjacent communities of Tofino and Ucluelet. In the thematic area of costs and benefits, PAPR is specifically interested in exploring how protected areas subject adjacent communities to costs and benefits associated with ecosystem services, tourism, and human-wildlife interactions (Murray, 2008). In addition, the project notes that perceptions of protected areas, and the impacts they have on adjacent communities, are subjective and can vary from one individual to the next (Murray, 2011).

As such, this research investigates perceptions surrounding a number of concerns and benefits related to ecosystem services and tourism in the communities of Tofino and Ucluelet. In doing so, this research will generate information that can be used to gain a better understanding of the distribution of these concerns and benefits in communities located near protected areas in Canada. In addition, this research may be useful in facilitating discussions surrounding the concerns and benefits generated by protected areas for adjacent communities both within the PAPR project and other organizations and individuals interested in such matters.

1.6 Thesis Structure

This thesis is comprised of five chapters. Chapter 1 outlines the rationale behind this research, describes the study site, and presents the study objectives. Chapter 2 presents a review of the literature related to this reseach. Chapter 3 provides a detailed description of the methodology used to conduct this research. Chapter 4 describes the results of this study. Chapter 5 summarizes the main

findings of this thesis, compares them to previous studies, and makes recommendations for managers and future research.

Chapter 2 Literature Review

2.1 Introduction

In the protected area literature there is a great deal of debate as to whether protected areas should be managed with consideration for residents of adjacent communities. Some argue that protected areas should focus primarily on goals related to conservation, while others suggest that they should focus on goals related to social and economic development. Regardless of which goals are pursued, the people living in and around protected areas often experience a number of costs and benefits related to protected area establishment and management decisions. This chapter outlines this debate and situates this study within the relevant literature.

This review is comprised of two portions; the first seeks to situate the discussion of costs and benefits in the wider debate surrounding the goals of protected areas. The review opens with a discussion of the "parks vs. people" debate and the paradigms that underpin each side of the debate. The review goes on to explore two paradigms of protected area management, ecosystem management and sustainable livelihoods.

The second portion of this review is comprised of three main sections a review of (1) benefits, (2) costs, and (3) Parks Canada policy and management directives. The literature surveyed for the first two sections draws upon examples from both international and Canadian protected areas for support. The third section reviews key Parks Canada documents to determine how the agency's management plans and policies impact communities that neighbour national parks in Canada.

2.2 The Parks vs. People Debate and the "New Paradigm"

Traditionally, the purpose of protected areas has been to "protect all non-domesticated elements of living nature and the processes and places they depend on" (Locke & Dearden, 2005, p.2). Traditional approaches towards conservation often sought to remove people from protected areas as it was thought that people and parks were not compatible.

However, over the last few decades the thinking surrounding protected areas has changed dramatically and has become focused on linking conservation to human welfare. New approaches to conservation attempt to use protected areas to generate social and economic benefits for local people while continuing to protect biodiversity.

This new approach has sparked a great deal of debate, referred to as the "parks vs people" debate, as to whether conservationists should prioritize human welfare or biodiversity conservation in protected areas. Phillips (2003) refers to these conflicting priorities as the "classic" and "new" paradigms of protected area management. This section explores both paradigms and discusses the origins, characteristics, advocates, and strengths and weaknesses of each approach (see Table 2.1 for characteristics of each approach according to Phillips, 2003).

2.2.1 The "Classic Paradigm"

Origins

The "classic paradigm" of protected area management was created in the mid 1800's along with the establishment of Yellowstone National Park in America and continues to be used today. Protected areas established using this paradigm were

created and managed by central governments with little concern for local people (Phillips, 2003). The "classic paradigm" sought to protect places that were previously thought to be untouched by human use from development (Miller et al., 2011). As a result, human populations have often been removed from protected

Table 2.1 Characteristics of the "Classic" and "New" Paradigms

	As it was: protected areas were…	*As it is becoming: protected areas are…*
Objectives	• Set aside for conservation • Established mainly for spectacular wildlife and scenic protection • Managed mainly for visitors and tourists • Valued as wilderness • About protection	• Run also with social and economic objectives • Often set up for scientific, economic, and cultural reasons • Managed with local people more in mind • Valued for the cultural importance of so-called wilderness • Also about restoration and rehabilitation
Governance	• Run by central government	• Run by many partners
Local people	• Planned and managed against people • Managed without regard to local opinions	• Run with, for, and in some cases by local people • Managed to meet the needs of local people
Wider context	• Developed separately • Managed as "islands"	• Planned as part of national, regional, and international systems • Developed as "networks" (strictly protected areas, buffered and linked by green corridors)
Perceptions	• Viewed primarily as a national asset • Viewed only as a national concern	• Viewed also as a community asset • Viewed also as an international concern
Management techniques	• Managed reactively within short timescale • Managed in a technocratic way	• Managed adaptively in long-term perspective • Managed with political considerations
Finance	• Paid for by taxpayer	• Paid for from many sources
Management skills	• Managed by scientists and natural resource experts • Expert-led	• Managed by multi-skilled individuals • Drawing on local knowledge

(Phillips, 2003)

areas established using the "classic paradigm" to ensure human use is kept to a minimum in these areas. According to Robinson (2011), classic approaches to

protected area management are most effective in areas that are devoid of people or traditional land claims or where people have the choice to willingly leave the area.

Characteristics

Protected areas crated under the "classic paradigm" are characterized as being run by a central government, managed to exclude local people, set aside for conservation, established to preserve extraordinary scenery and wildlife, managed for visitors and tourists, managed as "islands" or "fortresses" that are thought to be separate from the surrounding landscape, and viewed as a national asset (Phillips, 2003; Kothari, 2008). The paradigm is underpinned by the belief that human activities pose a threat to natural areas and the survival of flora and fauna, and therefore need to be removed from these areas (Kalamandeen & Gillson, 2006).

Advocates

Those that embrace the "classic paradigm", categorized as "nature protectionists" by Miller et al. (2011), often see the primary objective of protected areas as the conservation of biodiversity (Minteer & Miller, 2011) and seek to limit human presence within these areas (Miller et al., 2011). "Nature protectionists" generally have a "nature-centered or non-anthropocentric orientation to conservation" (ibid, p.953). As a result, supporters of the "classic paradigm" view conservation and development goals as separate issues that should not be combined (ibid).

Strengths

The main strength of the "classic paradigm" is that it explicitly focuses on biodiversity conservation above all other goals. The paradigm can also

accommodate a range of human uses, such as tourism and indigenous subsistence activities, so long as they do not take precedence over, or detract, from conservation goals (Locke & Dearden, 2005). This is critical as it suggests that the "classic paradigm" has the potential to provide local people with a range of environmental, social, and economic benefits.

Furthermore, while the paradigm has traditionally focused on conserving wilderness through the exclusion of people from parks, this has begun to change. For example, a number of protected areas that were established under the classic top-down approach to management now engage in some form of collaborative management with local communities (Kothari, 2008), as is the case in a number of Canadian national parks (e.g. Gwaii Haanas National Park).

Weaknesses

One of the original justifications for protected areas and the "classic paradigm" was the need to preserve and stem species and habitat loss related to human encroachment on wilderness areas, which turned PA's into "islands" and "fortresses"" (Miller et al., 2011). The problem with these "islands" and "fortresses" is that they are often too small and isolated to be effective at protecting biodiversity (Crofts, 2004). The paradigm is also criticized for ignoring outside economic and social forces that may impact conservation effectiveness (ibid).

The "classic paradigm" has also been criticized for paying little attention to local communities when making decisions. As a result, the paradigm may disempower local people, promote negative feelings towards protected areas, and may even result in retaliatory actions that diminish conservation effectiveness

(Kothari, 2008). Furthermore, there is increasing evidence that "traditional" protected areas can impoverish local people through displacement and restricting access to livelihood resources (ibid).

2.2.2 The "New Paradigm"

Origins

The "new paradigm" is strikingly different from the "classic paradigm" described above in that it calls for more people-focused approaches to conservation instead of the exclusionary approaches utilized by the "classic paradigm". According to Phillips (2003) events such as the 1972 United Nations Conference on the Human Environment, the development of the biosphere reserve concept, the publication of the World Conservation Strategy in 1980, and the adoption of Agenda 21, and the CBD at the 1992 UNCED were instrumental in influencing the thinking surrounding people in nature. As a result of these events, people focused conservation approaches grew in popularity during the 1990's and eventually resulted in the "new paradigm" becoming a focus of conservation discourse (Miller et al., 2011). Through this discourse it has become recognized by some that

> "exclusionary conservation is simply not sustainable even if it has managed to stave off some extinctions and save a number of crucial habitats for a time. Nor is it ethically justifiable when imposed by those who have adequate means of livelihood and even luxuries, on those who are already living on the edge" (Kothari, 2008, p.23).

Characteristics

The "new paradigm" represents a broader way of understanding protected areas by calling upon managers to engage with a wider range of stakeholders, expand management efforts beyond boundaries to work at the landscape level, and to embrace the lands lived in by humans as potential protected areas (Phillips, 2003). The "new paradigm" is characterized as being run with, and sometimes by, local people and other partners, focused on social and economic objectives in addition to conservation objectives, managed to help meet the needs of local people, planned as part of a larger network of protected areas, and viewed as a community asset (ibid). The paradigm is rooted in a human centered worldview that focuses on the benefits that wilderness and protected areas can provide to society, such as poverty alleviation (Locke & Dearden, 2005).

Advocates

Advocates of the "new paradigm" are typically "social conservationists" who see protected areas as a means to improve human welfare, reduce poverty, and provide social justice (Miller et al., 2011). "Social conservationists" hold the view that "poor people have the right to develop an adequate livelihood through the sustainable use of natural resources" (ibid, p.953). In addition, unlike "nature protectionists", "social conservationists" believe that protected areas can both improve human welfare while effectively protecting biodiversity (ibid).

Strengths

The main strengths of the new paradigm are that it emphasizes conservation at a landscape level that extends beyond park boundaries and seeks to empower

local people. If practitioners continue to embrace the new paradigm it may result in a reduction in conflicts between people and protected areas, an increase in support for conservation, an increase in the number of community and indigenous protected areas, and the demise of the idea that people and nature should remain separate (Kothari, 2008).

Weaknesses

In proposing the "new paradigm" Phillips (2003) acknowledges that there are a number of problems with it. The adoption of the "new paradigm" may result in the dissolution of national protected area agencies; poor management of protected area resources by local people or organizations; and may make managers jobs undoable by adding in additional social and economic goals that are unrelated to conservation (ibid).

Furthermore, the approach has been criticized for disregarding the idea that the primary goal of a protected area is to conserve biodiversity. Locke & Dearden (2005) suggest that

> "wild biodiversity will not be well served by the adoption of this new paradigm, which will devalue conservation biology, undermine the creation of more strictly protected reserves, inflate the amount of area in reserves and place people at the center of the protected area agenda at the expense of wild biodiversity" (p.1)

2.2.3 Summary

Based on the preceding discussion of both the "classic" and "new" paradigms of protected area management the two paradigms represent significantly different

approaches to conservation. Yet, the "classic paradigm" accommodates some forms of human use and the "new paradigm" is also concerned with the protection of biodiversity. While it would be desirable to achieve the goals of both paradigms simultaneously in the same project there is much debate as to whether or not this is possible (e.g. McShane et al., 2011; Miller et al., 2011). The conflict between the two paradigms appears to occur when conservation goals conflict with human welfare needs which results in managers making decisions that move them towards one paradigm or the other.

One aspect of the "new paradigm" that may be able to bridge the gap between supporters of both approaches is the idea that protected areas should be linked to the surrounding landscape (Miller et al., 2011). Approaches such as ecosystem based management and biosphere reserves have the potential to link "protected areas to the surrounding land and water areas, and to the regional economy. They also provide a framework within which privately, publicly, and communally owned land can be managed through voluntary agreements for a common cause" (Phillips, 2003, p.27).

2.3 Ecosystem Management

2.3.1 The Concept

The concept of ecosystem based management warrants some discussion as it is being used in the study area by Parks Canada in the management of Pacific Rim National Park Reserve and by the Clayoquot Biosphere Trust in administering a biosphere reserve of the same name. This section will briefly provide an overview

of ecosystem management and biosphere reserves and how such approaches may benefit communities located near protected areas.

Grumbine (1994) defines ecosystem management as an approach that "integrates scientific knowledge of ecological relationships within a complex socio-political and values framework towards the general goal of protecting native ecosystem integrity over the long term" (p. 31). Alternatively, Sarzo et al. (1998) define ecosystem management as

> "an approach that attempts to involve all stakeholders in defining sustainable alternatives for the interactions of people and the environments in which they live. Its goal is to restore and sustain the health, productivity, and biodiversity of ecosystems and the overall quality of life through a natural resource management approach that is fully integrated with social and economic needs" (p.1).

Both definitions describe ecosystem management yet they seem to be focused on opposing goals. The definition provided by Grumbine focuses on science and ecological integrity while Sarzo et al. focuses more on social science and sustainability. In Canada, approaches to ecosystem management seem to have focus more on science and ecological integrity (Slocombe & Dearden, 2009).

A review of Parks Canada literature (see Section 2.7) suggests that Parks Canada's use of ecosystem management is focused mainly on reducing negative impacts to parks caused by incompatible adjacent land uses. This literature also suggests that the park does little to engage or involve neighbouring communities in making management decisions.

2.3.2 Benefits of Ecosystem Management

While Parks Canada's approach to ecosystem management is focused mainly on science, the concept can do more than just maintain ecosystems and preserve biodiversity, it also allows for sustainable development (Lackey, 1998). As this research is interested in how protected areas provide neighbouring communities with costs and benefits the notion that ecosystem management allows for sustainable development should be discussed further.

The benefits of sustainable development, according to the ecosystem management concept, are mainly based on conservation and sustainable resource extraction. While these benefits are important in conserving biodiversity and supplying communities with a renewable supply of resources, the extent to which a community benefits from ecosystem management may be dependent on residents perceptions of these benefits. According to Slocombe and Dearden (2009) ecosystem management needs to focus more on benefits for local and distant communities in addition to developing effective relationships with stakeholder groups. In order for this approach to be effective management policies and procedures need to place a greater emphasis on community consultation, participation in decision making, and the consideration of communities and their interests in the area (Lackey, 1998).

2.3.3 Biosphere Reserves

Biosphere reserves, a form of ecosystem management that involves protected areas, appear to be focused more on community benefits that can be derived from conservation. Biosphere reserves are designed so that conservation

and development goals can be achieved simultaneously in a regional context (Batisse, 1982). This is achieved by establishing reserves that are large enough to accommodate both conservation areas and other land uses without conflict (ibid).

Biosphere reserves are typically divided into three zones; a core zone, a buffer zone, and a transition zone. The core area is an area, such as a national park, where there is little development and focuses on conserving biodiversity (see Slocombe & Dearden, 2009). While the later two zones are designed such that they can provide communities located near protected areas with tangible benefits (ibid). Buffer zones allow for uses such as recreation and environmental education, while transitions zones allow for sustainable use of natural resources (ibid).

2.3.4 Summary

This section has demonstrated that ecosystem management has the potential to provide communities with benefits from protected areas. However, the extent of these benefits may be limited depending on how the concept is utilized by protected area managers. This study will provide some evidence of the effectiveness of ecosystem based management and the biosphere reserve model in the Clayoquot Sound area through an examination of the perceived flow of concerns and benefits between communities and Pacific Rim National Park Reserve.

2.4 Sustainable Livelihoods

The concept of sustainable livelihoods also warrants some discussion in this review, as it is an approach that was developed from, and related, to the literature focusing on the relationship between human wellbeing and the environment (Scoones, 1998). While this review is not explicitly related to poverty reduction, it

does discuss both the positive and negative impacts protected areas can have on the residents of nearby communities. This section provides an overview of the sustainable livelihoods approach to development and describes how it may be useful for this research.

2.4.1 Sustainable Livelihoods Defined

The proliferation of literature surrounding sustainable livelihoods can be attributed to a working paper by Chambers and Conway in the early 1990's (Bennett, 2010). This paper sought to generate a discussion of the concept in order to further explore and define the ideas behind sustainable livelihoods (Chambers & Conway, 1992). In this seminal livelihoods paper Chambers and Conway suggest that much of the previous thinking surrounding rural livelihoods and poverty was overly simplistic and failed to accurately represent the complexities present within rural livelihoods (Bennett, 2010).

In order to create a paradigm shift away from the overly simplistic views of livelihoods and poverty Chambers and Conway sought to incorporate the concepts of capabilities, assets, equity, and sustainability in the following definition (ibid):

> "A livelihood comprises the capabilities, assets (stores, resources, claims and access) and activities required for a means of living: a livelihood is sustainable when it can cope with and recover from stress and shocks, maintain or enhance its capabilities and assets, and provide sustainable livelihood opportunities for the next generation; and which contributes net benefits to other livelihoods at the local and global levels and in the short and long term". (Chambers & Conway, 1992, p. 6)

This definition was subsequently modified and expanded upon by Carney to include a natural resource dimension and has become the most often cited sustainable livelihoods definition (Bennett, 2010). According to Carney (1998):

> "A livelihood comprises the capabilities, assets (including both material and social resources) and activities required for a means of living. A livelihood is sustainable when it can cope with and recover from stresses and shocks and maintain or enhance its capabilities and assets both now and in the future, while not undermining the natural resource base". (p. 4)

In the above definitions "capabilities" refers to "being able to perform certain basic functionings, to what a person is capable of doing and being" (Chambers & Conway, 1992, p. 4). While tangible, or material, assets refer to resources such as financial savings, jewellery, land, and livestock. Intangible, or social, assets refer to resources such as being able to appeal to others for support and the use of a natural resource (Chambers & Conway, 1992). It is by combining capabilities with tangible and intangible assets that individuals are able to derive a living.

2.4.2 Livelihood Diversification

In addition to defining what comprises a livelihood, the above definitions also outline what makes a livelihood sustainable. In order to effectively deal with and recover from stresses and shocks while maintaining or enhancing capabilities and assets it is suggested that households engage in livelihood diversification (Chambers & Conway 1992; Ellis, 1998; Murray, 2001).

According to Ellis (1998) livelihood diversification is ""the process by which rural families construct a diverse portfolio of activities and social support

capabilities in order to survive and improve their standards of living"(p. 1). To engage in diversification households or individuals must have a range of both tangible and intangible assets that may allow them to reduce their vulnerability to stresses and shocks with minimal threat to future livelihood options (Chambers & Conway, 1992).

In the livelihoods literature the aforementioned range of assets, also referred to as capitals, consist of natural, social, physical, financial, human, and other elements that can be combined to create livelihood outcomes that seek to reduce vulnerability of an individual or group to shocks, trends, and seasonality (Bennett, 2010).

2.4.3 Sustainable Livelihoods and This Research

Incorporating livelihoods thinking into this research may be useful for both the research design and data analysis aspects of this project. Livelihoods concepts are versatile and can be used as a tool to be adapted for context specific uses or to add depth to an analysis (Carney, 2002). Furthermore, livelihood thinking can be applied to individuals and groups living in both urban and rural settings (Chambers & Conway, 1992).

Livelihood thinking is particularly applicable to this project as the approach helps to frame how structural, historical, and institutional changes may have impacted the study sites over time. These changes are usually initiated outside of communities, yet they can cause shocks and stresses that may increase vulnerability within a community. For example, in Tofino and Ucluelet livelihoods have changed

dramatically as the local economy has been forced diversify as a result of declines in both the fishing and logging industries (Vaugeois & Rollins, 2007).

2.5 Links Between the Paradigms and Costs and Benefits

To this point this review has focused on discussing approaches to protected area management. From this discussion, it is apparent that each paradigm, and the related management concepts, impact the people that live near protected areas in different ways. Protected areas managed under the "classic paradigm" may subject communities to costs such as displacement and restricted access to important livelihood resources while providing benefits such as ecosystem services and tourism. Whereas areas managed under the more socially focused "new paradigm" may provide communities with benefits such as economic development from tourism and sustainable harvesting of natural resources. The next portion of this review focuses in on these benefits and costs and the impact they can have on surrounding communities.

2.6 Benefits

2.6.1 Conservation

A number of studies have shown that protected areas provide communities with a number of conservation benefits that are highly valued by residents of adjacent communities. Conservation related benefits may be more difficult for residents of communities located near protected areas to perceive and quantify compared to the more tangible economic benefits. However, the literature suggests that conservation related benefits are important to communities (e.g. Ferreira & Freire, 2009). Furthermore, the successful conservation of natural spaces and

species in a protected area can aid in maintaining and increasing tourism in that area (Van Sickle & Eagles, 1998).

In a review of several papers it was found that people value living near protected areas as they can provide communities with conservation benefits such as increased hunting and wildlife viewing opportunities (Tessema, Lilieholm, Ashenafi, & Leader-Williams, 2010), ecosystem services (e.g. clean water and climate regulation) (Hartter & Goldman, 2010), and bequest values (e.g. preservation of nature for future generations) (Fiallo & Jacobson, 1995). In each of these papers respondents clearly indicated that they felt they received these benefits as a result of living near a protected area, which according to Gadd (2005), is critical for the continued preservation of these areas. For example, in Machalilla National Park, Ecuador, respondents from communities located near park boundaries were in favour of a logging ban instituted by the park as it aided in combating deforestation and preserving the forest despite being reliant on the forest for fuel wood (Fiallo & Jacobson, 1995).

In a North American context, the conservation values espoused by protected areas are highly valued and supported by both user and non-user groups (Shultis & More, 2011). For example, in a study conducted by BC Parks (Dyck, 2002) it was found that over 80% of British Columbians felt that the conservation benefits provided to them by provincial parks were very important.

2.6.2 Tourism

It is often thought that tourism is able to provide communities located near protected areas with meaningful benefits while fostering support for conservation. Several studies have indicated that residents perceive that the receipt of tourism revenues and related benefits are extremely important to their communities (e.g. Gadd, 2005; Tessema, Lilieholm, Ashenafi, & Leader-Williams, 2010). Tourism can provide rural communities with a range of economic opportunities and alternative livelihoods that can aid in the conservation of protected areas (Walpole & Goodwin, 2001; Kiss, 2004). Wells suggests that benefits derived from tourism can be most significant at the local level, as these benefits can directly, and positively, impact the livelihoods and incomes of rural communities (Wells, 1992).

Tourism also has the potential to provide people with employment where few opportunities previously existed, or help to offset declines in employment in other economic sectors (Rollins, Eagles, & Dearden, 2009). For example, a study by Vaugeois & Rollins (2007) found that several rural communities on Vancouver Island have made a successful transition from economies based on logging and fishing to tourism, including Tofino and Ucluelet. In these rural communities it was found that residents viewed tourism related employment as an attractive alternative to work in other economic sectors (ibid).

Jobs in the tourism industry can be ideal for rural communities as they are labour intensive, often require little skill, provide opportunities for women, and can be sustainable in remote areas that have limited potential for other forms of development (Ashley, Boyd, & Goodwin, 2000; Dudley et al., 2008). In addition,

employment opportunities can be strengthened by protected area management policies. For example, in Gwaii Haanas National Park, management has set employment targets that specify a minimum of 50% of park staff need to be from local communities (see Timko & Satterfield, 2008).

Tourism can also provide communities near protected areas opportunities to generate additional revenue from locally owned tourism enterprises (such as businesses that sell food or put on cultural performances for tourists), land leases (see review in Adams & Hutton, 2007), and revenues from private sector partnerships (Ashley et al., 2000). In some instances, communities are provided with formal training in the tourism industry so they are effectively able to take advantage of such opportunities (Ashley & Roe, 2002).

Revenue sharing arrangements with protected areas represent a significant benefit for communities as money earned from tourism expenditures can be used for both income supplementation and infrastructure development. In Serengeti National Park, Tanzania, 7.5% of tourism revenues are given to local communities in addition to other wildlife related revenues which provides local districts with 80% of their annual development budgets (Dudley et al., 2008). For three communities in rural Uganda, tourism revenue sharing has led to the construction of 21 schools, four medical clinics, and one bridge (Archabald & Naughton-Treves, 2001).

Communities near protected areas may also receive government funding to facilitate community growth and infrastructure upgrades. In order to accommodate increases in community visitation some communities have been provided with funding from local and national governments to invest in upgrading community

infrastructure and tourist services. For example, when Saguenay National Park and Saguenay–St Lawrence National Marine Park were created in Quebec, Canada the federal and provincial governments invested $15 million in the area for the creation of park infrastructure over a 10 year period and another $10 million was injected into several adjacent communities for tourism related development (Fortin & Gagnon, 1999).

This section suggests that protected areas can provide neighbouring communities with significant tourism related benefits. Therefore it should come as no surprise that in a survey of community members residing near Komodo National Park, Indonesia, 92.7% of respondents would like to see an increase in tourism and 88.9% indicated they would like their children to work in the tourism industry (Walpole & Goodwin, 2001).

2.6.3 Limits on Tourism Benefits

While tourism can benefit local communities, it is not a feasible development tool for all communities located near protected areas. Just because some communities have been able to take advantage of protected area visitation does not mean that all communities can do the same, or that those who have profited from tourism will continue to do so (Dudley et al., 2008). Many protected areas have limited potential for development because they have poor infrastructure, lack adequate marketing, lack easily accessible natural features, and operate in politically unstable regions, all of which limit a parks ability to attract tourists (Wells, 1992; Archabald & Naughton-Treves, 2001).

Furthermore, communities that have been able to capitalize on tourism related to protected areas may face problems associated with inflation, which can increase the price of land, goods, and services for local residents (Fortin & Gagnon, 1999, Ashley & Roe, 2002). It is also argued that even though some communities do receive benefits from tourism, they are often not enough to provide adequate compensation for those that have been displaced from protected areas (Adams & Infield, 2003; Brockington, 2004).

The tourism industry is highly competitive and subject to a number of uncontrollable externalities, such as political instability, recessions, and exchange rates, making it "far from an ideal entry level business for rural communities with little previous experience" (Kiss, 2004, p.234). In addition, communities that have decided to embrace tourism need to be made aware that developing a tourism attraction is a slow and gradual process (Ashley & Roe, 2002).

If communities are able to capitalize on tourism they also need to be wary of economic leakage. Leakage can occur in a number of ways, including repatriation of profits to owners who live in areas outside of host communities, importing labour and goods from other areas to meet the needs of tourists, and by pre-paying for travel and accommodation expenses outside of the community (Wells, 1992; Ashley et al., 2000). Regardless of how the leakage occurs, it represents a reduction, or possible elimination, of the economic benefits local communities would receive if money had been spent either in or around protected areas (Wells, 1992). Table 2.2 provides a list of costs and benefits that can be associated with protected area tourism.

Table 2.2 Potential Community Benefits and Costs Associated with Park Related Tourism	
Potential Benefits	**Potential Costs**
- Direct and indirect employment opportunities for residents	- New jobs can be low-paying and seasonal
- Increases residents' incomes	- Inflation of prices for goods and services and land
- Economic expansion and diversification	- Increase in property taxes relative to market value
- Increases local manufacturing of tourism goods (e.g. arts and crafts)	- Leakage from imported goods/services, non-local ownership, and non resident seasonal employees
- Improves living standards	- Displaces other sources of income and industries
- Possible increases local tax revenues	- Overcrowding of destination by visitors
- Access to new markets and foreign exchange	- Alteration of community social practices
- Increased funding for protected areas and local communities	- Increased use of natural and social community resources
- Development of new skills for tourism employees	- Commodification of local culture
- Improves infrastructure	- Increased crime rates
- Cultural education for both visitors and residents	- Increased conflicts between residents
- Increases community pride	- Increased community risk from dependence on tourism
- Potential tourism revenue sharing between protected areas and neighbouring communities	- Increased conflict between residents and protected area staff
- Migration opportunities for residents	- Increased land use conflicts (e.g. conservation vs. resource extraction)
- Increased provision of social services	- Increased in community populations to unsustainable levels

(Wells, 1992; Archabald Naughton-Treves, 2001; Ferraro, 2002; Coad et al., 2008; Rollins, Dearden, & Eagles, 2009)

This table helps to illustrate the fact that while tourism is able to provide a community with a number of benefits there are also a substantial number of costs that come with tourism development.

2.7 Costs

2.7.1 Displacement

The establishment of protected areas has frequently resulted in the removal of communities and indigenous peoples, who are often dependent on the landscape for subsistence, from inside park boundaries with minimal, or no compensation (Cernea & Schmidt-Soltau, 2006). These displacements have occurred mainly as a result of "fortress style conservation", which utilized a top-down protectionist approach to managing protected areas. In this traditional approach to protected area management decisions are made solely by protected area managers that are focused on protecting biodiversity with little regard for local livelihoods. This style of conservation has led to the displacement of communities from protected areas in an almost militaristic manner (see Timko & Satterfield, 2008) and alienated communities from their former lands (Lemelin & Johnston, 2009).

This protectionist approach to conservation was premised on the notion that national parks were supposed to represent a pristine and untouched wilderness, a vision which could not be accomplished with people living inside park borders (Colchester, 2004; Adams & Hutton, 2007). Such practices may be detrimental to rural communities as they increase the risk of impoverishment for residents living near protected areas (Brockington & Schimdt-Soltau, 2004; Timko & Satterfield, 2008).

For example, in 1936 Parks Canada forcibly removed members of the Keeseekowenin Ojibway band from Riding Mountain National Park, Manitoba. Their forced removal by Parks Canada deprived the Keeseekowenin of lands that they

were legally entitled to. In addition, Parks staff burned down the Keeseekowenin's houses and barns in an effort to discourage the former residents from returning.

According to Sandlos (2008) the band was removed from the park as a result of local and federal interests in promoting tourism and game protection combined with the desire of Indian Affairs to assimilate native hunters into modern society. As a result, the presence of First Nations peoples was erased from Riding Mountain National Park for almost 60 years (ibid). While this is an extreme example, Parks Canada and the federal government continued to create parks at the expense of land owners and communities until the 1980's when the agency began to involve these groups in park planning processes (McNamee, 2009).

On a global scale a majority of displacements (88%) occurred in "strictly protected areas", IUCN categories I-IV, which place limits on access and usage of parks (Coad et al., 2008). Protected areas that fall within these categories include national parks, nature reserves, wilderness areas, and habitat management areas and are focused on the conservation of wilderness, the preservation of biodiversity, and the maintenance of environmental services (IUCN, 1994). As a result, local populations may be relocated from these protected areas as they may pose a threat to meeting the conservation objectives outlined by the ICUN.

The practice of displacement was common until the 1970's when the idea that parks and protected areas should provide social and economic benefits to adjacent communities began to gain popularity amongst conservationists (see review in Adams & Hutton, 2007). Despite this, a review of displacement related literature conducted by Coad et al. (2008) shows that the practice of displacement

continues and that one quarter of protected area displacements occurred after 1990. For example, residents of several villages located in Bui National Park, Ghana, a PAPR study site, recently had their lands expropriated to make way for a hydro-electric dam that is being constructed in the park.

As this section has demonstrated, displacement of communities from within protected areas can subject communities to significant costs. If the costs to local communities associated with protected area creation cannot be reduced it is possible that adjacent communities will not support conservation initiatives and that conflict may arise between communities and protected area staff (Colchester, 2004). A comprehensive list of negative impacts related to displacement can be found in Table 2.3 in section 2.7.2.

2.7.2 Restricted Access to Resources

When protected areas are established communities may experience restrictions on harvesting resources that they previously depended upon, in addition to losing title and access to their former lands. This separation of rural communities from resources does not simply increase the risk of impoverishment, it guarantees it (Cernea & Schimdt-Soltau, 2006). Rural communities may have few alternatives to harvesting resources to meet their livelihood needs because of their distance from large population centers. However, the level of access may be dependent on the management policies of individual protected areas, which have evolved over the past few decades to place greater emphasis on compensating local communities for protected area establishment.

In Canada, the shift towards more inclusive forms of protected area management is reflected in amendments made to the National Parks Act in 1979, 1988, and 2000. The changes made to the Parks Act in 1979 represented an effort by Parks Canada to be more aware of the impacts that park establishment can have on neighbouring communities (Dearden & Langdon, 2009). Amendments to the Act in 1988 allowed certain First Nations groups the right to sustainably harvest traditional renewable resources from certain national parks. Further amendments made in 2000 extended the rights of First Nations to harvest renewable resources to a larger number of parks.

Many communities have been impacted by protected area policies concerning access to natural resources. Numerous rural communities rely on natural resource consumption from protected areas for fuel wood, wild foods, bushmeat, building materials and medicines for some portion of their income and subsistence (Wells, 1992; Fortin & Gagnon, 1999; Archabald & Naughton-Treves, 2001; Brockington, 2004; Shrestha & Alavalapati, 2006; Coad et al., 2008). In many cases the resources harvested by local communities act as a safety net to ensure survival (Dudley et al. 2008). For example, it was estimated that in the Central African Rainforest inhabitants generate 67% of their income from harvested resources and only 33% from farming and other employment (Cernea & Schimdt-Soltau 2006).

Excluding local communities from harvesting resources inside protected areas may also result in land use intensification just beyond park borders. Land use intensification may occur as displaced populations have less land on which to gather

resources (Archabald & Naughton-Treves, 2001). As a result of losing access to resources within park boundaries there is also an increased dependence on farming and other forms of labour outside of protected areas to supplement local consumptive needs, which can also negatively affect conservation (Coad et al., 2008). For example, when Manitoba's provincial government legalized elk farming in an effort to increase agricultural revenues for farmers, provincial employees captured approximately 70 elk from Riding Mountain National Park in two nights by luring the animals onto lands adjacent to the park and abducting them (Searle, 2000). While park managers were outraged, this was not an issue for farmers living close to the park, who viewed the park as a hindrance to their livelihoods, and saw elk farming as a new economic opportunity initiated with park resources.

In addition to land use intensification, residents of local communities may engage in illegal resource harvesting within protected areas for subsistence. For example, in Korup National Park, Cameroon, 90% of hunters stated that they had increased their hunting inside of park boundaries four years after being displaced from the park, as the land around their new settlement was already used for hunting by another community (Cernea & Schmidt-Soltau, 2006).

If displaced communities intensify their activities in lands surrounding protected areas, while continuing to harvest resources from inside protected area boundaries, they pose a serious threat to conservation goals. This is slightly ironic, as initially communities were removed from within park borders in order to protect biodiversity. Table 2.3 provides a summary of the impacts mentioned in this section

in addition to other impacts communities may be subject to when their access to resources is restricted.

Table 2.3 Potential Costs Associated with Displacement and Restricted Access to Resources	
- Fosters negative attitudes toward conservation	- Restricted harvesting of resources and use of forest products
- Creates intra-community conflict	- Changes culture by restricting access to materials used to comprise local livelihoods
- Social disarticulation as a result of displacement	- Alters local labour markets
- Increased morbidity resulting from loss of access to certain key natural resources (e.g. water, building materials, wild foods)	- Creates homelessness
- Rapid lifestyle changes	- Creates food insecurity
- Decreased health	- Marginalization of displaced communities
- Loss of traditional and culturally important lands	- Loss of access to common property resources (forests, water, wasteland, cultural sites)
- Loss of traditional rights	- Inadequate or non-existent compensation for displaced residents
- Increased poaching and illegal resource extraction	- Loss of "safety net" resources
- Impoverishment from loss of land and restricted access to resources	- Increased dependence on formal employment or commercial activities
- Reduction in local incomes	- Accelerated resource extraction outside of protected area boarders
- Restricts access to medicinal plants and natural health services	- Changes local land tenure system
- Creates intensification of land use surrounding protected area	- increased exposure to risk
- Loss of land for grazing	- Increased hostilities between residents and protected area staff

(Archabald Naughton-Treves, 2001; Ferraro, 2002; Cernea Schmidt-Soltau 2006; Coad et al. 2008)

2.7.3 User Fees

In addition, to losing access to resources contained within protected areas residents of adjacent communities may also have to pay a fee to access lands which they previously had unrestricted access to. In North America, protected areas have been forced to increasingly rely on revenue derived from park user fees for their operational needs as government funding has decreased substantially over the past two decades, while the number of national parks has increased (Rollins, 1998). As a result park users have been subject to a variety of user fees in order to supplement the financial costs associated with the operation of national and provincial parks (Kafarowski, 2003).

In a review of provincial and national park agencies it was found that most have considered, or implemented, differential pricing when deciding on the appropriate fees to charge visitors for park services. In addition there has been some consideration of charging foreign visitors higher park use fees "as they do not pay taxes to the relevant government authority" (Van Sickle & Eagles, 1998, p. 231).

The implementation of user fees may also negatively impact protected area usage. A review of park use literature by Shultis and More (2011) indicated that approximately one quarter of both visitors and non-visitors to national parks felt that fees were a barrier to park use. In addition, increased usage fees may decrease park use by people from low and middle-income user groups.

User fees have also been shown to negatively affect protected area usage by residents of nearby communities (Keogh, 1990; Fortin & Gagnon, 1999). This decrease in local usage is likely a result of forcing local residents to pay to access

lands they previously had unrestricted access to before protected area establishment.

2.8 Distribution of Costs and Benefits

For the most part, the benefits generated by protected areas accrue at a national or global level, while the majority of the costs are borne locally, which increases the vulnerability of communities that live near these areas (e.g. Scherl, 2005; Coad et al., 2008). At a local level, costs may also be unevenly distributed as certain community members are affected differently by protected area establishment. The literature suggests that in rural communities wealthier community members, and those willing to engage in illegal resource extraction, are least affected by protected area establishment (Adams & Hutton, 2007; Coad et al., 2008); while the community members that suffer most are those that are heavily dependent on natural resource consumption and are already impoverished (Wells, 1992).

For example, it was estimated that the cost of establishing Ranomafana National Park in Madagascar, over a 60 year time period, on local populations was $19 to $70 per household per year, when the average household income was $50 to $60 per year (Ferraro, 2002). In this case those who were dependent on access to park lands, often the poorest community members, would bear the greatest cost of conservation, closer to $70 per household per year, and lose the greatest amount of income, up to $60 per household per year, significantly impacting their livelihoods.

This unequal distribution of costs and benefits from protected areas is problematic, as it does not foster support for conserving biodiversity amongst local

communities (Wilkie et al., 2006). Furthermore, the possibility of benefits offsetting the costs of protected area establishment often depends on the ability of communities to take advantage of new livelihood opportunities that may arise with the creation of a protected area, such as tourism development (Igoe, 2006). In order to enhance opportunities for local communities to receive benefits from protected areas, they need to be included in park management and protected area governance (Timko & Satterfield, 2008). Whether or not local populations are included in the governance of protected areas is largely dependent on the policies of individual park management agencies.

2.9 Costs and Benefits According to Parks Canada

This section examines Parks Canada's policy documents and other Parks Canada publications to determine how Canadian national parks impact neighbouring communities from the perspective of management. This discussion focuses on Parks Canada policy and documents written after 1979 as prior to this Parks Canada was not overly concerned with negative community impacts (Dearden & Langdon, 2009).

Section 3.3 of the 1979 Parks Canada policy outlines how national parks can impact local communities and states that the "concern for the impact of [Parks Canada's] actions [on communities located near national parks] does not imply that Parks Canada is primarily a program of regional social or economic development" (p.15). However, this section of the policy does acknowledge that national parks can provide neighbouring communities with both costs and benefits related to park establishment. The policy also states that financial assistance may be available to

communities for municipal infrastructure development to encourage tourism development outside of park boundaries so that communities do not have to "bear a disproportionate share of the costs of protecting and presenting the national heritage of all Canadians" (Parks Canada, 1979).

Similar statements are made in Parks Canada's guiding principals and operational policies (1994). This document continues the notion that Parks Canada should contribute to economic and social development in neighbouring communities, provided such development does not interfere with the management of natural protected areas (Parks Canada, 1994). The document also highlights the fact that while Parks Canada does not have a mandate for encouraging and developing tourism in national parks, parks themselves are tourist attractions that can be economically beneficial on both a national and community scale (ibid).

Section 4.3.2 of the 1994 parks policy states that Parks Canada will cooperate with the tourism sector to provide visitors with tourist services in the areas surrounding national parks to avoid damage to park ecosystems (Parks Canada, 1994). By operating in this way the park is able to fulfill their conservation mandate while providing their neighbours with increased tourist traffic. However, by indirectly encouraging development in the communities surrounding the parks it is possible that Parks Canada has diminished regional ecological integrity as a whole in order to preserve the land inside of park boundaries.

Information contained in Parks Canada Corporate Plan (2010a) and Pacific Rim National Park Management Plan (2010b) suggests that Canadian national parks can, and do, provide communities with employment, economic development, and

infrastructure development. According to the Parks Canada Corporate Plan (2010a) the agency directly employs 31,000 people, which includes employment in many communities located near national parks. In the communities surrounding PRNPR community members are both employed directly by the park and the beneficiaries of park service contracts. For example, in PRNPR the Ucluelet First Nation operate the main visitor center gift shop, which receives 100,000 visitors annually, and three First Nations have been contracted to maintain a 25 kilometer section of the West Coast Trail (Parks Canada, 2010b).

In addition, the park also provides indirect employment in the communities surrounding PRNPR by providing few tourist services inside park boundaries. For the year of 2009 Pacific Rim issued 57 business licences for tourism enterprises to operate inside the park offering services such surfing, kayaking, wildlife viewing, and guided hikes (Parks Canada, 2010b). While the tourism industry can suffer from seasonality in the Pacific Rim area the surrounding communities have managed to maintain certain operations in the "off season" due to the popularity of surfing and storm watching, which is best in the winter months (ibid).

Furthermore the park would appear to have an indirect reciprocal relationship with neighbouring communities as both benefit from increased marketing efforts and visitation numbers, regardless of which party is responsible for these efforts. The park has certainly helped to bring more visitors into the area by being at least partially responsible for the paving of the road from Port Alberni to Pacific Rim in 1972, which also benefited the local communities (Parks Canada, 2010b). Furthermore the park stands to further increase tourism benefits for

neighbouring communities by planning to increase visitation to national parks in general by 10% by 2015 (Parks Canada, 2010a).

From this brief examination of Parks Canada policy and management plans it is clear that national parks in Canada provide adjacent communities with a number of important benefits. However, these documents do not address, or mention, the costs communities are subject to after a national park has been established. While Parks Canada has stated the aforementioned benefits should reduce the pressure on communities with regards to bearing the costs associated with protected area establishment, there is little mention of what these cost are, or how the agency has addressed them. Parks Canada claims that newly established parks and heritage places increase wellbeing in the surrounding communities (Parks Canada, 2010a), but this would be subject to a comparison between the costs communities are forced to bear and the benefits they actually receive form being located near a national park.

2.10 Perceptions of Protected Areas

The preceding section provides several examples of how Canadian national parks can provide adjacent communities with benefits such as improved infrastructure, tourism development, and employment. These are actual benefits that can be measured and quantified to demonstrate to stakeholders the benefits of national parks to adjacent communities. However, these actual benefits may not be realized or valued by the people that live near these parks. As a result, a number of studies have suggested that focusing on residents' perceptions of protected areas is

extremely important (e.g. Fiallo & Jacobson, 1995, Allendorf et al., 2006, Allendorf et al., 2007).

Once understood, perceptions can help protected area managers make decisions that are more meaningful to local residents and improve the relationship between protected area managers and the surrounding communities (Allendorf et al., 2006). In addition, if protected area managers are aware of residents' perceptions they can make decisions based on the needs and expectations of adjacent communities (see Allendorf et al., 2007).

Furthermore, it may be possible to use perceptions to predict attitudes towards protected areas, as they are directly related (Fishbein & Ajzen, 2010). According to Fishbein and Ajzen (2010), perceptions "represent the information people have about [a specific] object, information that serves as the foundation for their attitudes" (p.98). This information is then used by a person to form "a latent disposition or tendency to respond with some degree of favorableness or unfavorableness to a psychological object", otherwise know as an attitude (Fishbein & Ajzen, 2010, p.76).

2.11 Gaps in Research

The literature reviewed for this study suggests that further research needs to be conducted on the costs and benefits generated by protected areas and their impact on adjacent communities. Many studies have focused on a specific cost or benefit and the resulting impact on a specific community, instead of attempting to conduct an analysis of costs and benefits at a larger scale (Dudley et al., 2008). This suggests that there is a need for research that examines costs and benefits at the

regional, national, and global level. While this research project focuses on PRNPR and the adjacent communities of Tofino and Ucluelet, it is also part of a larger research initiative headed by the PAPR project. As a result it may be possible to compare the results of this Canadian study with those of other similar projects conducted by PAPR members in Ghana and Tanzania to gain obtain insights into costs and benefits at a global level.

Furthermore, much of the literature is focused on specific regions or protected areas (West, Igoe, & Brockington, 2006) in developing nations in Africa and South America. To date few studies have examined the costs and benefits received by North American communities located near protected areas. As a result, this research seeks to determine how protected areas in Canada impact adjacent communities.

2.12 Conclusion

This review has discussed several approaches to protected area management and some of the resulting costs and benefits experienced by local communities. In Canada, it would appear that national parks provide nearby communities with benefits related to tourism and community development. While Parks Canada documents highlight how the parks can benefit adjacent communities there is little mention of any negative community impacts. Therefore, there is a need to conduct research in communities located near Canadian national parks to determine the costs of park establishment before making any claims regarding perceived costs, benefits and community wellbeing. This study seeks to identify how the

communities of Tofino and Ucluelet, British Columbia, Canada have been impacted by PRNPR by addressing the following research questions:

1. What is the attitude and level of support for PRNPR amongst residents of Tofino and Ucluelet?
2. How do residents of Tofino and Ucluelet perceive they benefit from living near PRNPR?
3. How do residents of Tofino and Ucluelet perceive they are subjected to concerns as a result of living near PRNPR?
4. How do perceptions of concerns and benefits differ between residents of Tofino and Ucluelet?
5. How has PRNPR has shaped livelihoods in Tofino and Ucluelet?

Chapter 3 Methodology

3.1 Overall Approach

The purpose of this research project was to explore how protected areas impact adjacent communities through an examination of the attitudes and perceptions of residents of Tofino and Ucluelet, British Columbia, regarding Pacific Rim National Park Reserve (PRNPR). To address these issues this study utilized a quantitative questionnaire and a focus group. By using both of these methods this study collected both in-depth qualitative information, which may be specific to individual study sites, as well as quantitative information that can be generalized and compared between study sites (Salant & Dillman, 1994). This approach has been successfully employed in other similar studies that measure community perceptions of protected areas and perceived costs and benefits (e.g. King & Peralvo 2010; Triguero-mas, Olomi-Sola, & Jha, N. et al., 2010).

3.2 Focus Group

3.2.1 Rationale

This study utilized a focus group to (1) gain a better understanding of perceptions towards PRNPR, (2) inform questionnaire design, and (3) provide additional support for questionnaire findings. Typically a focus group involve eight to ten participants and is designed to stimulate thoughts and generate ideas about a specific topic (Salant & Dillman, 1994) making it ideal for use in this study.

3.2.2 Focus Group Design and Administration

To ensure that those chosen to participate in the focus group were "key informants" participants were selected with the help of two members of the

Protected Areas and Poverty Reduction Research Alliance (PAPR). For the purposes of this study a "key informant" was considered to be a long term resident of Tofino or Ucluelet that had lived in the area before PRNPR was established to determine how the communities have changed over the past 40 years.

Potential participants were contacted initially by phone to introduce them to the research project, invite them to participate in a focus group, and establish a meeting time in each community. To ensure sufficient participation in the focus group, snowball sampling was employed to obtain additional "key informants" who may have been willing to participate in a focus group. The number of participants in Tofino was not large enough to conduct a focus group so the researcher chose to conduct an interview with the one community member who had agreed to participate. The Tofino interview (n=1) and the Ucluelet focus group (n=5) were conducted on August 5th and 6th, 2010.

Questions focused on participants' perceptions of concerns and benefits related to PRNPR, the impact PRNPR has had on livelihoods, the use of park facilities by residents, and PRNPR community engagement efforts. All questions posed to respondents during each session were approved by the University of Victoria Human Research Ethics Board (UVic Ethics) (see Appendix A). Participants were provided with the focus group questions in advance in order to allow them to think about how the park has impacted their respective communities. Both sessions were audio recorded and transcribed in full by the researcher at a later date. All participants were asked to sign a consent form (see Appendix B) and agreed to have their voices recorded before the focus group commenced.

Previous studies have shown that focus groups can be an effective method of collecting information regarding perceptions of protected areas and the impacts they can have on communities (e.g. Tessema, Lilieholm, Ashenafi, & Leader-Williams, 2010). Fortin and Gagnon (1999) utilized focus groups with various stakeholder groups to assess the social and economic impacts of Saguenay National Park and the adjoining Saguenay–St. Lawrence National Marine Conservation Area on communities in the Saguenay region of Quebec.

Engaging community members in a focus group provides several benefits for this research project. First, a focus group encourages participants to buy into and support the research that is being conducted in their community (Salant & Dillman, 1994). Second, by using a focus group, participants can provide the researcher with information regarding the types of questions and information that should be included in a questionnaire (ibid). Third, there is potential that group discussion may lead participants to generate ideas that they would not have thought of if interviewed individually (Conradson, 2005).

3.2.3 Possible Shortcomings of Focus Group Methodology

One shortcoming of this project was the inability to organize a focus group in Tofino due to lack of participants. In conducting an interview, instead of a focus group, it is possible that the perceived impacts of the park on Tofino may not have been adequately represented in the final version of the questionnaire. While several concerns and benefits were discussed during the interview with the Tofino participant the conversation could have been enriched by having several other key informants in attendance to confirm or refute the issues discussed.

However, there are advantages to conducting personal interviews. By conducting an interview with a single participant the researcher is able to focus on that individual's perspective, as opposed to the multiple perspectives presented in a focus group (Conradson, 2005). In addition, by talking to a participant individually they may express views or opinions not shared by others (ibid).

3.2.4 Data Analysis

Upon completion of data collection, the audio recordings of the focus group and interview were transcribed in full using a word processor and a transcribing kit. Transcripts were coded initially by hand based on respondents' discussion of concerns, benefits, and the distribution of these concerns and benefits between different groups in the study sites. The data was then inserted into an Excel table and further refined into sub-categories. The data was then used to inform questionnaire design and support the findings of the questionnaire.

3.3 Quantitative Questionnaire

3.3.1 Rationale

As this study focused on examining community perceptions of PRNPR it was necessary to attempt to engage a large number of participants in the research process. A quantitative questionnaire is ideal for this type of research as it provides a method of obtaining information from a select group of respondents that describes the characteristics of a much larger group (Parfitt, 2005). Furthermore, questionnaires are often used to estimate the characteristics, attitudes, behaviours, opinions, and beliefs of targeted populations, making them an ideal tool for this study (ibid). For example, a number of studies (e.g. Wall, 1996; Walpole and

Goodwin, 2001; Bauer, 2003; Shrestha & Alavalapati, 2006) have used questionnaires to gather information regarding how residents perceive nearby protected areas and the associated impacts in adjacent communities.

Employing a questionnaire was useful for this project as it created a standardized measurement tool that was applied identically in both Tofino and Ucluelet. By establishing a standardized way of measuring responses, the questionnaire ensured that all responses collected using the survey instrument were subject to the same biases allowing for sampling error to be controlled and consistent across communities. This tool could also be used in other communities adjacent to PRNPR in the future.

3.3.2 Questionnaire Design

The questionnaire was designed as a booklet to increase its visual appeal in an effort to attract the respondents attention and maximize the response rate (Salant & Dillman, 1994). The questionnaire consisted of 21 questions and utilized a variety of question types. Questions were designed to address the research objectives of this project and consisted of sections based on 1) visitation of PRNPR, 2) the perceived benefits and 3) perceived concerns experienced by residents of Tofino and Ucluelet, 4) changes PRNPR may have caused in the communities, and 5) community demographics.

It should be noted that this research uses the term “concern” in place of “cost”. This was done as the term “concern” is associated with the way people think about certain issues, whereas the term “cost” is usually associated with financial

transactions and economics. As this study investigates attitudes and perceptions it is more appropriate, and accurate, to refer to costs as concerns.

Questions were mainly close-ended and consisted of a variety of ordered, unordered, and partially close-ended response choices. Questions regarding perceived concerns and benefits and community changes were designed based on a five point Likert scale. The final question in the questionnaire was open-ended to provide respondents with space to leave additional comments about PRNPR or the survey in general.

The questionnaire was informed by a review of the relevant literature and then refined further based on comments made during the focus group and a peer review of the instrument. In addition, a pilot study was conducted with Tofino residents to ensure that all questions were well written and easy to understand. The final version of the questionnaire used for this study, which was approved by UVic Ethics, can be seen in Appendix C.

3.3.3 Questionnaire Administration

For this study the drop-off method was selected as the mode of delivery for the questionnaire. The drop off method consists of delivering questionnaires to respondents in person and having them complete the questionnaire on their own (Salant & Dillman, 1994). Respondents were asked to return the questionnaire to the researcher directly by arranging a time and date for pick-up that was convenient for the respondent (ibid).

The drop-off method was chosen as it allowed the researcher to obtain a number of completed questionnaires with limited financial resources, staff, or

assistance from others (Salant & Dillman, 1994). Furthermore, by making face to face contact with respondents and explaining the research project directly to them the likelihood that they would complete the questionnaire is increased compared to other methods of survey administration (Rea & Parker, 1992). In a previous study, conducted nearby in the Gulf Islands of British Columbia, the drop-off method was employed and found to be highly effective as indicated by the response rate of 73.8% (McCallum, 2006).

This approach was modified slightly during the last four days of sampling to request that respondents return their completed surveys in postage paid, self addressed envelopes to ensure questionnaires could be retrieved after the researcher had left the area. This modification was necessary as many participants took several days to complete a questionnaire and return it to the researcher.

The sample for this project was drawn from the total number of households, 1329, located in Tofino and Ucluelet (Statistics Canada, 2007). Based on this population every third household was approached in an effort to obtain a sample of 298 completed questionnaires which would have produced a 95% confidence interval with a $\pm$ 5% sampling error (Creative Research Systems, 2011).

This research employed a sampling procedure similar to that described by Walpole and Goodwin (2001). Using detailed civic address maps of the districts of Tofino and Ucluelet, the researcher chose a random starting point in the residential areas located within the geographical boundaries of Tofino and Ucluelet. Upon choosing a starting point systematic sampling was used to ensure that all

community members had an equal chance of being selected to participate in this research.

From the start point, every third residence on one side of the street was approached before moving on to do the same on the opposite side of the street. For each household that was approached and had a resident answer the door the researcher introduced themselves, gave a brief description of the research project, and asked the resident if they would be willing to completed a questionnaire. If a person under the age of 18 answered the door the researcher requested to speak to a resident over the age of 18. All residents who agreed to participate in the study were then provided with a consent form and a questionnaire to be completed at their convenience. In addition, a date and time were scheduled for the researcher to return to pick up completed questionnaires.

If there was no answer at a selected residence the researcher returned at a later date to make two further attempts to survey the selected household. If there was no answer after the third attempt, or a refusal, a neighbouring house was selected to replace it based on the researchers direction of travel on a street to repeat the sampling procedure.

Data collection for this study took place between Oct 23rd and Dec 15th, 2010 on both weekends and weekdays between 11:00 am and 8:00 pm. It was found that the ideal time to reach residents of Tofino and Ucluelet was between approximately 5:00 pm and 8:00 pm on weekdays. A cut off time of 8:00pm was chosen to respect the residents of each community as many respondents had indicated they had young children and had little time to speak with the researcher.

The questionnaire was piloted with residents of Tofino on October 23rd and 24th, 2010 to provide feedback on the content and wording contained within the survey instrument. This feedback was utilized to revise the questionnaire before continuing with sampling on October 31st. In addition, a group of undergraduate students from Vancouver Island University assisted with survey administration for one day.

Upon completion of data collection a total of 149 completed questionnaires were obtained resulting in a 95% confidence interval with a ± 7.6% sampling error based on the sample population of 1,329 households (Creative Research Systems, 2011). During this study a total of 361 households were approached to participate in this research, 142 of which could not be reached after three attempts to deliver a questionnaire. Of the remaining 219 households where contact with a resident was made 149 of those households, 97 from Tofino and 52 from Ucluelet , completed a questionnaire, yielding a response rate of 69%.

3.3.4 Possible Shortcomings of Survey Methodology

One shortcoming of this methodology was the failure to obtain 298 completed questionnaires to produce a 95% confidence interval with a ± 5% sampling error. This may have occurred for several reasons, the first of which was the length of the data collection period. Initially it was thought that 36 days of data collection spread between October 23rd and December 15th, 2010 would produce the required sample. However, data collection was more time consuming than anticipated as it was common to have to approach households multiple times before speaking to a resident.

In addition, once a questionnaire was dropped off at a residence it was common to return to the household multiple times before being able to retrieve a completed questionnaire. This also caused a secondary issue where the researcher spent more time in Tofino than Ucluelet, which resulted in an unequal number of questionnaires being completed in each community.

This problem was compounded by severe weather, frequent heavy rain and high winds experienced in the communities during the data collection period. During periods of severe weather it was difficult to distribute questionnaires as heavy rain made it challenging to keep survey materials dry and prevented the accurate recording of responses from households. It may have been possible to avoid these sampling issues by beginning questionnaire administration earlier in the fall. However, it was thought that by conducting data collection outside of the main tourist season it would be easier to reach year round residents of Tofino and Ucluelet.

Furthermore, both of the study sites are vacation areas with a significant number of residences that are not occupied year round. Tofino and Ucluelet have a total of 941 and 725 private dwellings respectively with 680 and 649 of those being occupied by permanent residents (Statistics Canada, 2007). This creates a total of 337 residences that may have been occupied by part time or non-residents. As there was no way to tell which households were occupied by part time and full time residents the significance of the non-response error may have been inflated.

3.3.5 Data Analysis

Responses from the 149 questionnaires were complied in an Excel spread sheet as they were received from participants during the data collection period. Once data collection was complete the close-ended questionnaire responses were transferred to SPSS for statistical analysis. Both Word and Excel were then used to convert SPSS outputs into tables for use in interpreting the findings of this study.

Open-ended responses from the questionnaire were coded based on themes found in the data and subsequently categorized. This data was used in conjunction with the data collected during the focus groups held in August, 2010 to support the findings of the questionnaire.

Chapter 4 Results

4.1 Introduction

The purpose of this chapter is to present the results of a study conducted in the fall of 2010 in Tofino and Ucluelet British Columbia, Canada that investigated community opinions about living near Pacific Rim National Park Reserve (PRNPR). A questionnaire (see Appendix C) was used as the primary data collection tool and administered to a total of 149 respondents, 97 from Tofino and 52 from Ucluelet, utilizing the drop off survey method.

4.1.1 Research Objectives

The results presented in this chapter seek to answer the following research questions:

1. What is the attitude and level of support for PRNPR amongst residents of Tofino and Ucluelet?
2. How do residents of Tofino and Ucluelet perceive they benefit from living near PRNPR?
3. How do residents of Tofino and Ucluelet perceive they are subjected to concerns as a result of living near PRNPR?
4. How do perceptions of concerns and benefits differ between residents of Tofino and Ucluelet?
5. How has PRNPR has shaped livelihoods in Tofino and Ucluelet?

4.1.2 Chapter Outline

This chapter presents the results from the questionnaire in tables that are then interpreted and discussed. Qualitative data obtained from the focus group is also presented throughout the discussion to strengthen the quantitative results obtained from the questionnaire. The results discussed in this chapter are presented in seven sections:

- Section 4.2 presents descriptive results of respondents' characteristics, length of residence in the area, and respondents' employment. These results are used in subsequent sections as groupings for further analysis.
- Section 4.3 characterizes respondents' use of PRNPR by frequency of visitation, areas visited, and activity.
- Section 4.4 focuses on respondents' attitude towards living near PRNPR. In this section attitude towards the park is examined based on place of residence and employment. These results are used in subsequent sections as independent variables for further analysis.
- There are a number of possible benefits and concerns that communities may be subjected to as a result of living near a protected area. Section 4.5 describes how residents perceive they benefit from living near PRNPR, while section 4.6 describes perceived concerns. For both sections 4.5 and 4.6 perceived concerns and benefits are compared by community, attitude towards PRNPR, employment, and importance.
- Section 4.7 presents results regarding changes in Tofino and Ucluelet over time. Possible changes are compared by community and attitude towards PRNPR.
- The final section of this chapter, section 4.8, examines respondents' involvement with PRNPR. This section make comparisons by community and level of involvement with PRNPR.

4.1.3 Statistical Tests

In order to effectively make the comparisons outlined above and interpret the results of this study two statistical tests were used. The Pearson Chi-square and independent t-test were employed to identify significant differences in relationships between respondent groups in the population under study.

Pearson's Chi-square test was used to determine statistically significant differences between two or more groups when examining dichotomous or categorical variables (Vaske, 2008). The test compares observed values to expected values to determine if a deviation between groups is statistically significant or is based on chance (ibid). For example, in this chapter Pearson's Chi-square test is used to determine significant differences between respondents from Tofino and Ucluelet and respondent attitudes towards PRNPR (positive or negative).

An independent t-test was also used in this chapter to determine statistically significant differences when making comparisons between mean responses. The independent t-test involves comparing two sample means to determine if there is a statistically significant difference between those means (Vaske, 2008). This statistical test is used when the independent variable is dichotomous and the dependent variable is continuous (ibid). For example, an independent t-test was used in this chapter when comparing responses from Tofino and Ucluelet, where mean scores were measured on a five point scale ranging from strongly disagree to strongly agree.

4.2 Characteristics of the Sample

Of the respondents surveyed for this research 65.3% were from Tofino and 34.0% were from Ucluelet (see Table 4.1). When the sample is compared to the actual population in each community it can be seen that a statistically significant difference exists between the sample and actual population. This indicates that the sample may over represent the views and opinions of Tofino residents. However, the results and comparisons made in this study take this difference into account through the use an appropriate statistical test (chi-square or independent t-test). It should be noted that all comparisons of the sample to census data may be inaccurate as the census data was collected in 2006, several years before this study was undertaken.

Table 4.1 Place of Residence

Town	Sample Population (%)	2006 Census (%)
Tofino	65.3	52.0
Ucluelet	34.0	48.0
Chi-Square Test - Value: 9.7, df: 1**, Sig.: 0.00**		

Table 4.2 compares the ages of the sample population to demographic information for each community from a 2006 census conducted by Statistics Canada. The chi-square data for this table suggest that there is a small but significant difference between the sample and the census data.

Table 4.2 Age of Respondents

Age	Sample (%)	2006 Census (%)
18 to 24	1.4	10.0
25 to 34	30.1	25.9
35 to 44	24.7	19.6
45 to 54	17.1	19.8
55 to 64	15.1	15.4
Over 65	11.6	9.2
Chi-Square Test - Value: 13.3, df: 5, Sig.:0.02		

Table 4.3 compares the gender of the sample population to data from the 2006 census. This table indicates that the sample data is similar to the 2006 census data as the chi-square data in Table 4.3 indicated no significant difference between the two groups.

Table 4.3 Age

Gender	Sample (%)	2006 Census (%)
Male	50.3	51.7
Female	49.7	48.3
Chi-Square Test - Value: 0.1**, df:** 1**, Sig.:** 0.75		

Table 4.4 contains household income data for both the sample and that of the actual population of the study sites. When comparing the sample data to data from the 2006 census it can be seen that the sample is a reasonable estimate of the actual population for most income brackets. However, chi-square data for this table suggests that the sample and census data are significantly different. This difference mainly occurs for the income bracket "less than $20,000" and suggests that the sample may under represent the views of households with incomes of less than $20,000.

Table 4.4 Household Income

Household Income	Sample (%)	2006 Census (%)
Less than $20,000	5.3	22.5
$20,000 to $39,999	25.0	19.2
$40,000 to $59,999	24.2	19.5
$60,000 to $79,999	18.9	16.2
$80,000 or more	26.5	22.2
Chi-Square Test – Value: 23.2, df: 4, Sig.:0.00		

The sample consists of a wide range of residents who have lived in the area for varying amounts of time with little apparent differences between communities. However, the chi-square data in Table 4.5 suggests that there is a significant difference in the number of years respondents have lived in each community. Tofino appears to have a greater number of respondents who have lived in the area for a shorter period of time, under 25 years, which may correspond with the stronger growth of tourism in Tofino, compared to Ucluelet.

Table 4.5 Length of Residence

	Response (%)		
Number of Years	**Total**	**Tofino**	**Ucluelet**
Less than 5 years	24.0	23.7	24.5
5 to 14 Years	32.2	35.1	26.5
15 to 24 Years	17.1	21.6	8.2
25 to 34 Years	14.4	10.3	22.4
More than 35 years	12.3	9.3	18.4
Chi-Square Test - Value: 9.7, df: 4, Sig.: 0.05			

This study was conducted in the late fall under the premise that most seasonal or part time residents would be absent from each study site in an attempt to obtain a sample composed mainly of year round residents. Table 4.6 indicates that 90.4% of respondents live in either Tofino or Ucluelet year round while only 9.6% of those surveyed indicated they live in the area for less than 12 months. The chi-square test results suggest that there is a difference in residency patterns between the two communities. This may be because more people are employed in seasonal tourism related jobs in Tofino, or may have second homes in the Tofino area.

Table 4.6 Months of the Year in the Community

	Response (%)		
Months in Community	**Total**	**Tofino**	**Ucluelet**
Less than 12 months	9.6	13.4	2.0
Year round	90.4	86.6	98.0
Chi-Square Test - Value: 4.8, df: 1**, Sig.: 0.03**			

Table 4.7 provides information on employment related to the tourism industry in each town. Overall, 59% of respondents indicated that their employment was related to the tourism industry while 41% stated their jobs were not related to tourism. Table 4.7 suggests that while respondents from both communities are employed in the tourism industry significantly more respondents from Tofino are employed in jobs that are related to tourism compared to respondents from Ucluelet.

Table 4.7 Employment Related to Tourism

	Response (%)		
Employment Related to Tourism	**Total**	**Tofino**	**Ucluelet**
Not at all related	41.0	34.8	53.2
Related	59.0	65.2	46.8
Chi-Squ: 4.4, df:1, Sig: 0.04			

While Table 4.7 indicated that more than half of respondents' employment is related to tourism the same connection can not be seen when looking at employment related to PRNPR. Table 4.8 suggests that approximately 36% of respondents from both communities view their employment as related to PRNPR.

When making comparisons between Tables 4.7 and 4.8 it should be noted that the response categories "employment related to tourism" and "employment related to PRNPR" are not mutually exclusive. These categories turned out to be

somewhat subjective as some respondents' indicated that their employment was related to both tourism and PRNPR.

Table 4.8 Employment Related to PRNPR

	Response (%)		
Employment Related to PRNPR	**Total**	**Tofino**	**Ucluelet**
Not at all related	63.8	63.7	63.8
Related	36.2	36.3	36.2
Chi-Squ: 0.0, df:1, Sig: 0.99			

4.2.1 Characteristics of the Sample Summary

Results from this section suggest that the sample population is a reasonable estimate of the actual population, although some small but significant differences are evident. Significant differences were observed when comparing sample age and income to data from the 2006 Canadian census. These results suggest that the demographic profile of Tofino may be impacted more by tourism employment opportunities compared to Ucluelet. The results also suggest that the majority of employment in both communities is not directly related to PRNPR.

4.3. Use of PRNPR

Section 4.3 examines how respondents from each community have used PRNPR in the past 12 months. This section describes park visitation and the activities participated in by respondents from both Tofino and Ucluelet when visiting the park. By characterizing respondents' use of PRNPR this section may provide some insights into how residents of Tofino and Ucluelet benefit from living near the park.

When evaluating residents' usage of PRNPR Table 4.9 shows that 42.6% of respondents visited the park more than 15 times in the past year. When the

categories “1 to 5 times” and “not at all” are combined close to a third (29.0%) of respondents indicated they visited PRNPR five times or less in the past year. Based on comments made by participants this low level of park use is partly due to the introduction of park use fees. For example one respondent commented “we used to go to the park on average once a week before pay parking. We can probably count on both hands how many times we have been since” (personal communication, 2010).

Table 4.9 Number of Visits to PRNPR in the Past 12 Months

	Response (%)		
Number of Visits	**Total**	**Tofino**	**Ucluelet**
Not at all	5.4	2.1	12.0
1 to 5 times	23.6	25.8	20.0
6 to 10 times	18.9	17.5	22.0
11 to 15 times	9.5	8.2	12.0
More than 15 times	42.6	46.4	34.0
Chi-Square Test - Value: 8.5, df: 4, Sig.: 0.08			

Pay parking was introduced by the federal government in PRNPR in 1994 resulting in visitors paying $5.00 a day for each car or $25.00 for the year (Murphey, 1994). Currently PRNPR charges a fee of $7.80 per person per day and $39.20 for a yearly pass (Parks Canada, 2009). While these fees appear to be small, it would appear that a number of residents from both communities feel that they should not have to pay to access the park.

While there is some variability when comparing the number of times participants visited the park between Tofino and Ucluelet, usage levels are similar for both communities. The chi-square analysis for this table suggests that the variability in visitation levels between communities is not statistically significant.

Of the respondents who indicated they have visited PRNPR in the past year (see Table 4.10) the most popular areas to visit were “Long Beach” (79.4%), “Wickaninish Beach” (78.7%), “Incinerator Rock” (69.5%), and “Radar Hill” (48.2). When comparing visitation by community a number of areas have significant differences in visitation. “Long Beach”, “Radar Hill”, and “Schooner Cove” were visited significantly more by residents of Tofino while “Wickaninish Beach” and the “Willowbrae Trail” were frequented more by residents of Ucluelet.

Table 4.10 Areas Visited in the Long Beach Unit in the Past 12 Months

	Response (%)			Chi-Square Test		
Area Visited	**Total**	**Tofino**	**Ucluelet**	**Value**	**df**	**Sig.**
Long Beach	79.4	82.4	68.9	4.4	1	0.04 *
Wickaninish Beach	78.7	71.6	93.3	8.6	1	0.00 *
Incinerator Rock	69.5	72.6	62.2	1.5	1	0.21
Radar Hill	48.2	56.8	28.9	9.6	1	0.00 *
Combers Beach	44.0	46.3	37.8	0.9	1	0.34
Schooner Cove Trail	37.6	45.3	20.0	8.3	1	0.00 *
South Beach Trail	29.1	28.4	31.1	0.1	1	0.74
Shorepine Bog Trail	27.7	26.3	28.9	0.1	1	0.75
Willowbrae Trail	24.1	15.8	42.2	11.6	1	0.00 *
Rainforest Trail	24.1	22.1	26.7	0.4	1	0.55
Other	22.7	23.2	22.2	0.0	1	0.90
Halfmoon Bay Trail	19.1	15.8	26.7	2.3	1	0.13
Nuu-Chah-Nulth Trail	14.9	14.7	15.6	0.0	1	0.90

The significant differences in visitation by community may be based on proximity to each municipality. By consulting a map of PRNPR it can be observed that “Long Beach”, “Radar Hill”, and “Schooner Cove” are located at the northwest end of the park, closer to Tofino, while “Wickaninish Beach” and the “Wilowbrae Trail” are located closer to the southeast end of the park, closer to Ucluelet.

When examining the number of areas respondents visited in PRNPR (Table 4.11) it can be seen that close to half of the sample (48.2%) visited between 1 to 4

areas of the park while a similar number (45.8%) visited between 5 to 10 areas. An additional 5.0% indicated they had visited more than 10 of the areas listed in Table 4.10. A t-test analysis conducted on the data contained in Table 4.11 that indicates the average number of areas visited by Tofino and Ucluelet residents was 5.2 and 5.0 respectively, which is not statistically significant.

Table 4.11 Number of Areas Visited

	Response (%)		
Number of Areas Visited	**Total**	**Tofino**	**Ucluelet**
1 to 2 areas	24.8	26.3	22.2
3 to 4 areas	23.4	20.0	31.1
5 to 6 areas	16.3	17.9	13.3
7 to 8 areas	17.7	15.8	20.0
9 to 10 areas	12.8	14.7	8.9
More than 10 areas	5.0	5.3	4.4
Mean areas	**5.2**	**5.2**	**5.0**
t-test Statistics - t: 0.3, **df:** 138, **Sig.:** 0.74			

Table 4.12 further describes respondents' use of PRNPR by detailing the activities respondents participated in while visiting the park. The most popular activities for community members to participate in while visiting the park were "walking/hiking" (90.8%), "wildlife viewing" (50.4%), and "surfing" (34.8%). Of these popular activities "walking/hiking" and "surfing" show significant differences in participation rates between communities. Significantly more park visitors from Ucluelet (97.8%) than Tofino (87.4) indicated they had engaged in walking/hiking while visiting the park, while more respondents from Tofino (42.1%) indicated they had gone surfing in the park compared to Ucluelet respondents (20.0%). Overall, seven of the eleven activities listed in Table 4.12 received participation rates of less than 20%, which suggests that these activities are not done frequently in the park. All activities listed below "other" exhibited minimal participation rates.

Table 4.12 Activities Participated in While Visiting PRNPR

	Response (%)			Chi-Square Test		
Activity	**Total**	**Tofino**	**Ucluelet**	**Value**	**df**	**Sig.**
Walking/ hiking	90.8	87.4	97.8	3.9	1	0.05 *
Wildlife viewing	50.4	47.4	57.8	1.3	1	0.25
Surfing	34.8	42.1	20.0	6.6	1	0.01 *
Nature photography	26.2	22.1	33.3	2.0	1	0.16
Other	17.0	12.6	26.7	4.2	1	0.04 *
Fishing	11.3	12.6	8.9	0.4	1	0.52
Boating	10.6	10.5	11.1	0.0	1	0.92
Cycling	9.2	11.6	4.4	1.8	1	0.17
Nature interpretation	8.5	10.5	4.4	1.4	1	0.23
Paddling	7.9	8.4	6.8	0.1	1	0.75
Camping	5.7	5.3	6.8	0.1	1	0.71

Table 4.13 indicates that most respondents have participated in one to three activities (74.1%) while visiting PRNPR in the past year. According to the t-test analysis for the data from this table there is no significant difference in "number of activities" between Tofino and Ucluelet.

Table 4.13 Number of Activities Participated in While at PRNPR

	Response (%)		
Number of Activities	**Total**	**Tofino**	**Ucluelet**
1 activity	24.5	24.2	25.6
2 activities	29.5	28.4	30.2
3 activities	20.1	22.1	16.3
4 activities	11.5	11.6	11.6
More than 4 activities	14.4	13.7	16.3
Mean Score	2.7	2.7	2.7
t-test Statistics - t: -0.1, **df:** 136, **Sig.:** 0.89			

4.3.1 Use of PRNPR Summary

The results from this section suggest that usage levels of PRNPR are similar for both residents of Tofino and Ucluelet. Overall, results show that 42.6% of respondents have been to the park more than fifteen times in the past year while

29.0% of respondents indicated they had used the park less than five times in the past year.

Respondents from both communities also participated in a similar number of activities while visiting the park with the most popular activities being walking/hiking, wildlife viewing, and surfing. This pattern of park usage suggests that many people from both communities derive tangible recreational benefits from living near PRNPR.

4.4. Attitude Towards Living Near PRNPR

Section 4.4 focuses on identifying respondents' attitudes towards living near PRNPR and whether attitudes are influenced by place of residence, employment, or income level. The results from this section help to further describe the sample and begin to describe the relationship between respondents and their attitude towards PRNPR. Based on the literature review conducted for this research it was expected that:

- respondents with employment related to tourism would be more likely to have a positive attitude towards PRNPR
- respondents with employment related to PRNPR would be more likely to have a positive attitude towards the park
- and, that individuals with higher incomes would be more positive about PRNPR than individuals with lower incomes

Table 4.14 examines how respondents perceive PRNPR provides them with benefits or subjects them to concerns. Overall, the table shows that most respondents (66%) perceive living near the park provides them with a net benefit. Furthermore, responses are similar when attitudes are compared by community based on the results of a chi-square analysis.

Table 4.14 Attitude Towards Living Near PRNPR

	Response (%)		
Attitude	**Total**	**Tofino**	**Ucluelet**
Concerns strongly outweigh the benefits	4.2	5.3	2.1
Concerns somewhat outweigh the benefits	8.3	6.3	12.5
Concerns are equal to the benefits	14.6	14.7	14.6
Benefits somewhat outweigh the concerns	27.1	30.5	20.8
Benefits strongly outweigh the concerns	38.9	36.8	41.7
not sure	6.9	6.3	8.3
Chi-Square Test - Value: 3.7, df: 5, Sig.: 0.59			

In order to make statistical comparisons using respondents' attitudes, the data from Table 4.14 was recoded to place responses into two groupings, negative attitudes and positive attitudes in Table 4.15. The "negative attitude" response category consists of the categories "concerns strongly outweigh the benefits" and "concerns somewhat outweigh the benefits" listed in Table 4.14. The "positive attitude" response category is comprised of the categories "concerns are equal to the benefits", "benefits somewhat outweigh the concerns", "benefits strongly outweigh the concerns", and "not sure". It should be noted that for all tables examining attitudes alternate analyses were conducted where the response categories "concerns are equal to the benefits" and "not sure" were removed from the "positive attitude" grouping with almost identical findings.

Table 4.15 Attitude Towards Living Near PRPR by Community

	Attitude (%)	
Town	**Negative**	**Positive**
Tofino	11.6	88.4
Ucluelet	14.6	85.4
Overall	12.1	84.6
Chi-Square Test - Value: 0.3**, df:** 1**, Sig.:** .61		

The results in Table 4.16 show that regardless of how a respondent's employment relates to tourism the majority had a positive attitude towards PRNPR, which is similar to the results displayed in Table 4.15. The difference between respondent attitude and employment type is not statistically significant.

Table 4.16 Attitude Towards PRNPR by Employment Related to Tourism

	Attitude (%)	
Employment	**Negative**	**Positive**
Not related to tourism	14.8	85.2
Related to tourism	11.0	87.5
Chi-Square Test - Value: 0.4**, df:** 1**, Sig.:** .51		

The data in Table 4.17 indicates that there is no connection between a respondent's employment related to PRNPR and their attitude towards PRNPR. In this case, there is no significant difference in attitude when comparing respondents who have employment related to the park and those who have employment not related to the park.

Table 4.17 Attitude Towards PRNPR by Employment Related to the Park

	Attitude (%)	
Employment	**Negative**	**Positive**
Not related to PRNPR	12.9	87.1
Related to PRNPR	12.0	88.0
Chi-Square Test - Value: 0.3**, df:** 1**, Sig.:** .87		

Table 4.18 contains results that are consistent with previous attitude based comparisons made in this section. The results indicate that most respondents have a positive attitude towards PRNPR regardless of length of residence.

Table 4.18 Attitude Towards PRNPR by Years Lived in the Area

	Attitude (%)	
Years	**Negative**	**Positive**
Less than 15 years	11.1	88.9
More than 15 years	14.8	85.2
Chi-Square Test - Value: 0.4**, df:** 1**, Sig.:** .52		

When comparing respondents' attitudes towards PRNPR by income a pattern similar to that of previous comparisons emerges. The results displayed in Table 4.19 suggest that most respondents have a positive attitude towards PRNPR despite differences in income levels.

Table 4.19 Attitude Towards PRNPR by Income

	Attitude (%)	
Household Income	**Negative**	**Positive**
Less than $20,000	33.3	66.7
$20,000 to $39,999	9.1	90.9
$40,000 to $59,999	12.9	87.1
$60,000 to $79,999	12.0	88.0
$80,000 or more	17.1	82.9
Chi-Square Test - Value: 2.9, df: 4, Sig.: .57		

4.4.1 Attitude Towards PRNPR Summary

Results from this section suggest that, overall, most respondents from both Tofino and Ucluelet have a positive attitude towards PRNPR. Furthermore, it was observed that there is no relationship between attitude towards PRNPR and employment, years lived in the area, or income level. These results may suggest that

residents value living near the park for reasons other than employment, as discussed in the following section.

4.5 Perceived Benefits

Community support for protected areas is shaped in part by the way that residents of nearby communities perceive they benefit from the area. This section examines how residents of Tofino and Ucluelet perceive they benefit from living near PRNPR. This section compares perceived benefits by community, most important perceived benefits, attitude towards PRNPR, years lived in the area, and employment.

Table 4.20 presents a list of possible benefits that were identified by a focus group and literature review that residents of Tofino and Ucluelet may receive as a result of living near PRNPR. The benefits in this table have been rank ordered by mean score so that the benefits that received the highest amount of support (agreement) appear at the top of table and the most disagreed with benefits appear at the bottom. The mean scores displayed in this table were generated using a five point scale which ranged from 1 = “strongly disagree” to 5 = “strongly agree”.

Based on the results displayed in Table 4.20 it would appear that respondents perceive they are receiving a range of economic, environmental, and social benefits as a result of living near PRNPR as most of the possible benefits listed in the table received a mean score of 3.0, or higher. Overall, the benefits with the highest mean scores were “increased visitation” (mean 4.3), “preserved local landscapes” (mean 4.1), “protected biodiversity” (mean 4.1), and “preserved public access to nature” (mean 4.0).

The benefits that received the lowest mean score were "maintained cultural identity" (mean 3.4), "provides spiritual benefits" (mean 3.4), "increased recreational activities" (mean 3.4), and "improved infrastructure" (mean 2.6). Of these benefits only "improved infrastructure" received a mean score of less than 3.0. Based on a mean score of 2.6 Table 4.20 shows that, overall, respondents disagreed that living near the park provided them with "improved infrastructure".

Table 4.20 Possible Benefits

	Response (%)					Statistics	
Possible Benefits	**Strongly Disagree**	**Somewhat Disagree**	**Not Sure**	**Somewhat Agree**	**Strongly Agree**	**Mean**	**Std. Dev.**
Increased visitation	0.7	4.1	7.5	37.4	50.3	4.3	0.8
Preserves local landscapes	2.1	2.7	13.0	47.9	34.2	4.1	0.9
Protected biodiversity	4.7	5.4	7.4	41.2	41.2	4.1	1.1
Preserves public access to Nature	3.4	9.5	7.4	41.9	37.8	4.0	1.1
Increased conservation awareness	4.1	6.8	13.6	49.7	25.9	3.9	1.0
Increased employment	4.1	10.8	17.6	36.5	31.1	3.8	1.1
More business opportunities	3.4	16.2	13.5	38.5	28.4	3.7	1.1
Increased tax revenues (tourism)	2.7	11.5	25.0	38.5	22.3	3.7	1.0
Provides ecosystem services	5.4	8.1	32.4	31.8	22.3	3.6	1.1
Maintained cultural identity	6.1	12.2	29.3	36.7	15.6	3.4	1.1
Provides spiritual benefits	5.7	6.4	49.3	21.4	17.1	3.4	1.0
Increased recreational activities	9.5	23.0	14.9	27.7	25.0	3.4	1.3
Improved infrastructure	18.9	29.7	30.4	16.9	4.1	2.6	1.1

In fact, some respondents indicated that the infrastructure in the area was not sufficient to meet the demands of the high number of visitors the area receives annually. A focus group participant recalls that:

> "Tofino was 1000-1200 people in the summer time maybe a couple extra 100 people showed up and that was it. Now it goes from 1500 to 20,000 people so the infrastructure is only being paid by a certain number … so many people but it's being used by 10 times the amount of people that live in the town and the town has to absorb that cost" (Personal communication, 2010).

While the park may have been at least somewhat responsible for upgrading some of the infrastructure in the area, one questionnaire respondent suggested that "with the creation of the park we got an updated water and road system. Thirty plus years later we are on our own, for the most part, to maintain and pay to keep this infrastructure adequate for not only residents but park visitors" (Personal communication, 2010).

In order to gain further insight into how communities benefit from living near PRNPR respondents were asked to rank their top three benefits by importance from the list of possible benefits (see Table 4.21). The top benefits ranked by total importance to respondents were "protected biodiversity" (54.0%), "preserves public access to nature" (43.5%), and "preserves local landscapes" (37.0%). This ranking of importance is similar to the results observed in Table 4.20 where the majority of respondents at least somewhat agreed that they receive conservation related benefits by living near PRNPR. By comparing benefits by importance (Table 4.21) to possible benefits (Table 4.20) the convergent validity of the results in this section can be strengthened. In this instance, the highest rated benefits are similar, indicating that the rankings in both tables are likely correct.

However, in Table 4.20 the benefit with the highest mean score, of 4.3, was "increased visitation". In Table 4.21, "increased visitation" was ranked ninth out of thirteen benefits when sorted by total importance. This finding may suggest that, in terms of benefits, respondents value conservation benefits over all other benefits, including economic benefits. This is reinforced by the low valuation of the benefit "increased tax revenues (tourism)", which respondents ranked twelfth out of thirteen benefits when sorted by total importance.

Table 4.21 Most Important Benefits by Community

	Response (%)			Chi-Square Test		
Possible Benefits	**Total Importance***	**Tofino**	**Ucluelet**	**Value**	**df**	**Sig.**
Protected biodiversity	54.0	57.4	48.2	0.9	1	0.34
Preserves public access to nature	43.5	50.7	28.5	7.2	1	0.01*
Preserves local landscapes	37.0	39.5	32.8	0.9	1	0.34
Increased employment	25.9	19.3	37.5	6.0	1	0.01*
Increased conservation awareness	24.4	28.2	17.5	2.5	1	0.11
More business opportunities	21.4	19.2	26.2	1.0	1	0.32
Provides ecosystem services	19.2	16.9	23.9	1.1	1	0.29
Increased recreational activities	19.2	21.5	15.4	0.9	1	0.34
Increased visitation	15.5	13.5	19.6	0.8	1	0.37
Improved infrastructure	14.8	11.2	21.8	3.4	1	0.07
Maintained cultural identity	10.3	11.2	6.5	1.3	1	0.25
Increased tax revenues (tourism)	8.8	5.6	15.2	4.3	1	0.04*
Provides spiritual benefits	5.9	5.6	6.5	0.0	1	1.00

* Total of respondents' first, second, and third most important benefits

Table 4.22 further examines possible community benefits and compares responses by community. The only significant difference between communities was "increased conservation awareness", which was higher in Tofino.

Table 4.22 Possible Benefits by Community

	Mean Score		t-test Statistics		
Possible Benefits	Tofino	Ucluelet	t	df	Sig. (2 tailed)
Increased visitation	4.4	4.2	1.3	144	0.20
Protected biodiversity	4.2	4.0	1.1	145	0.27
Preserves local landscapes	4.1	4.0	0.6	143	0.54
Preserves public access to nature	4.1	3.8	1.7	145	0.09
Increased conservation awareness	4.0	3.5	2.9	144	0.00 *
Increased employment	3.9	3.6	1.3	145	0.19
More business opportunities	3.8	3.5	1.8	145	0.07
Increased tax revenues (tourism)	3.7	3.6	0.4	145	0.66
Provides ecosystem services	3.6	3.5	0.6	145	0.53
Maintained cultural identity	3.5	3.4	0.5	144	0.60
Provides spiritual benefits	3.4	3.3	0.8	115	0.42
Increased recreational activities	3.3	3.4	-0.2	145	0.83
Improved infrastructure	2.6	2.5	0.4	145	0.69

Referring back to Table 4.21 it can also be seen that the difference between communities in importance given to most benefits is not significant. However, several significant differences can be observed when comparing importance by community. Respondents from Tofino rated the benefit "preserves public access to nature" as significantly more important than respondents from Ucluelet. While respondents from Ucluelet rated the benefits "increased employment" and "increased tax revenue" as significantly more important than respondents from Tofino.

To better understand respondents' perceptions of possible community benefits it is necessary to make additional comparisons between respondent groups. Table 4.23 compares possible community benefits by respondents' attitude towards living near PRNPR. The "attitude groupings" being compared in this table are the same as those described in section 4.4. For this comparison it was expected that respondents with a positive attitude would be more likely to rate most of the benefits listed in Table 4.23 higher than respondents with a negative attitude.

Table 4.23 shows that there is a significant statistical difference for all possible benefits listed, except for "increased tax revenues". Respondents with a positive attitude rated the possible benefits listed in Table 4.23 higher than respondents with a negative attitude. These results are consistent with findings from attitude research conducted by Fishbein and Aizen (2010), which suggests that the benefits listed in the tables in section 4.5 have been correctly identified. Benefit statements, or beliefs, such as those used in this section are thought to predict attitude, as indicated by these results.

Table 4.23 Possible Benefits Compared by Attitude

	Mean Benefit Score		t-test Statistics		
Possible Benefits	**Negative Attitude**	**Positive Attitude**	**t**	**df**	**Sig. (1 tailed)**
Increased visitation	3.8	4.4	-2.8	141	0.01 *
Preserves local landscapes	3.6	4.2	-2.8	140	0.01 *
Increased tax revenues (Tourism)	3.4	3.7	-0.9	142	0.19
Protected biodiversity	3.4	4.2	-2.4	19	0.02 *
Increased employment	3.2	3.9	-2.7	142	0.01 *
More business opportunities	3.1	3.8	-2.6	142	0.01 *
Increased conservation awareness	3.1	4.0	-3.7	141	0.00 *
Preserves public access to nature	2.9	4.2	-3.7	19	0.00 *
Provides spiritual benefits	2.8	3.4	-2.4	135	0.01 *
Provides ecosystem services	2.7	3.7	-3.7	142	0.00 *
Maintained cultural identity	2.6	3.6	-3.8	141	0.00 *
Increased recreational activities	2.2	3.6	-4.4	142	0.00 *
Improved infrastructure	1.7	2.7	-4.0	142	0.00 *

The one possible benefit that did not have a significant difference in mean attitude was "increased tax revenues (tourism)". This may be due to the fact that both communities levy the same tax on visitors to the area who require accommodation. However, it is interesting that this benefit did not receive a higher mean score as each municipality charges a 2.0% tax on accommodation with the

resulting revenue being used to fund tourism marketing, programs, and projects in the communities.

In order to further determine how PRNPR benefits residents of Tofino and Ucluelet possible benefits were compared by the number of years a respondent has lived in the area (Table 4.24). For this comparison the data was separated into the groupings "less than 15 years" and "more than 15 years" as this division allowed for the sample to be divided in to two groups of approximately the same size.

Table 4.24 Possible Benefits Compared by Years Lived in the Area

	Mean Benefit Score		t-test Statistics		
Possible Benefits	**Less than 15 years**	**More than 15 years**	**t**	**df**	**Sig. (2 tailed)**
Increased visitation	4.4	4.3	0.9	143	0.38
Preserves local landscapes	4.2	4.0	1.4	142	0.15
Protected biodiversity	4.1	4.1	0.2	144	0.87
Preserves public access to nature	4.1	4.0	0.5	144	0.60
Increased conservation awareness	3.9	3.8	0.4	143	0.72
Increased employment	3.9	3.6	1.7	144	0.09
More business opportunities	3.9	3.5	1.8	144	0.07
Provides ecosystem services	3.7	3.5	1.0	121	0.31
Increased tax revenues (Tourism)	3.6	3.7	-0.4	144	0.69
Maintained cultural identity	3.5	3.3	1.0	143	0.32
Increased recreational activities	3.5	3.2	1.0	144	0.33
Provides spiritual benefits	3.5	3.2	2.0	137	0.05 *
Improved infrastructure	2.7	2.5	1.0	144	0.31

The data contained in Table 4.24 suggests that there is little difference in benefit perception in relation to length of residence as few benefits exhibit significant differences between the two groupings. Only the benefit "provides spiritual benefits" was perceived differently by respondent groupings.

Table 4.25 compares respondents' perception of benefits based on tourism related employment. For this comparison it was thought that respondents with employment related to tourism would rate the possible benefits discussed in this section higher than respondents employed in other industries. However, this was generally not the case, as the results show no significant differences between the two groups for all but four benefits.

In Table 4.25, the four benefits "increased visitation", "increased conservation awareness", "protected biodiversity", and "preserved public access to nature" show a significant difference in benefit perception between respondent employment groups. However, the mean scores for both employment groups for these benefits are higher than 3.0 indicating that respondents from both of these groups generally agree that the park provides the communities with these benefits.

Table 4.25 Possible Benefits Compared by Tourism Related Employment

	Mean Benefit Score		t-test Statistics		
Possible Benefits	**Employment Not Related to Tourism**	**Employment Related to Tourism**	**t**	**df**	**Sig. (1 Tailed)**
Increased visitation	4.1	4.4	-2.1	136	0.02 *
Preserves public access to nature	3.9	4.1	-0.8	137	0.22
Preserves local landscapes	3.9	4.2	-2.2	135	0.02 *
increased employment	3.8	3.8	-0.2	137	0.40
Protected biodiversity	3.8	4.3	-2.5	92	0.01 *
More business opportunities	3.7	3.8	-0.6	137	0.56
Increased tax revenues (tourism)	3.7	3.6	0.5	137	0.32
Increased conservation awareness	3.6	4.0	-2.6	98	0.01 *
Provides ecosystem services	3.4	3.7	-1.2	137	0.13
Increased recreational activities	3.3	3.4	-0.4	137	0.35
Maintained cultural identity	3.3	3.5	-0.9	136	0.18
Provides spiritual benefits	3.3	3.4	-0.8	123	0.21
Improved infrastructure	2.6	2.6	0.3	137	0.39

Table 4.26 compares possible benefits by employment related to PRNPR. For this comparison it was thought that people with employment related to PRNPR would generally rate the possible benefits higher than respondents with employment not related to the park. This was not supported by the results in Table 4.26, as most of the possible benefits show no significant differences in mean score with the exception of "protected biodiversity" and "maintained cultural identity". Again, mean scores for both employment groups are above 3.0 indicating that both groups perceive that the park has helped to protect biodiversity and maintain the areas culture.

Table 4.26 Possible Benefits Compared by Employment Related to PRNPR

	Mean Benefit Score		t-test Statistics		
Possible Benefits	**Employment Not Related to the Park**	**Employment Related to the Park**	**t**	**df**	**Sig. (1 Tailed)**
Increased visitation	4.2	4.5	-1.5	136	0.07
Preserves local landscapes	4.0	4.2	-1.5	134	0.07
Protected biodiversity	3.9	4.3	-2.0	136	0.03 *
Preserves public access to nature	3.9	4.2	-1.4	136	0.08
Increased employment	3.8	3.9	-0.2	136	0.44
More business opportunities	3.8	3.7	0.6	136	0.29
Increased conservation awareness	3.7	4.0	-1.5	116	0.07
Increased tax revenues (tourism)	3.6	3.8	-1.4	136	0.08
Provides ecosystem services	3.5	3.7	-0.7	136	0.25
Maintained cultural identity	3.3	3.6	-1.7	135	0.05 *
Provides spiritual benefits	3.3	3.5	-1.3	128	0.10
Increased recreational activities	3.2	3.5	-1.3	136	0.10
Improved infrastructure	2.5	2.7	-0.7	136	0.25

4.5.1 Perceived Benefits Summary

Based on the results of this section it would appear that respondents from both Tofino and Ucluelet perceive that PRNPR provides their communities with a range of benefits. Overall, this section suggests that respondents' value

conservation related benefits over other benefit types, including economic benefits. In addition, this section shows that respondents with a positive attitude towards PRNPR generally were more in agreement with the possible benefits discussed than respondents with negative attitudes.

The results also suggests that there are few differences in benefit perception when comparing perceptions between:

- Tofino and Ucluelet residents
- residents who have lived in the area for more or less than 15 years
- respondents with jobs related to tourism and respondents in other lines of work
- and respondents with employment related to PRNPR and respondents in other lines of work.

4.6 Perceived Concerns

While support for protected areas may increase if a protected area provides nearby communities with benefits, the literature suggests that the reverse is also true. If residents perceive they are being subjected to concerns as a result of living near a protected area their support for the area may decrease. This section explores how PRNPR subjects residents of Tofino and Ucluelet to concerns. The list of concerns used in all tables in section 4.6 was generated from a review of protected area literature and the results of a focus group.

Table 4.27 presents a list of possible concerns residents of Tofino and Ucluelet may be subject to as a result of living near PRNPR. The results in the table are rank ordered from highest to lowest based on the mean scores for each concern.

Respondents indicated they at least somewhat agree that the park subjects them to seven of the thirteen concerns listed in Table 4.27. The concerns in the

table that respondents at least somewhat agreed with were "inflated goods and services" (mean 3.8), "inflated property values" (mean 3.8), "restricted activities allowed in PRNPR" (mean 3.7), "increase in non-resident ownership of property" (mean 3.6), "entrance fees reduced park use" (mean 3.3), "overuse of natural resources" (mean 3.3), and "crowding in community" (mean 3.3). These results indicate that residents generally perceive that the park has subjected the communities to a number of concerns.

Conversely, there were four potential concerns that respondents did not agree with. The lowest rated concerns by mean in Table 4.27 were "land near PRNPR has been degraded" (mean 2.5), "support for PRNPR has decreased" (mean 2.4), "contributed to wildlife problems" (mean 2.2), and "tourism negatively impacts employment" (mean 2.1).

Several interesting patterns immerge from this table. The concern "entrance fees have reduced park use" received a relatively low mean score despite the fact that respondents indicated that entrance fees are a major source of irritation for people that live near PRNPR. Several respondents commented that residents should not have to pay to access the park and compared their situation to other communities located near national parks. One survey respondent remarked that

> "in other jurisdictions, such as Banff, residents living in or on the borders of a national park are given seasonal passes. Here we pay full price with the exception of a small early bird discount. I feel the locals who deal with the good and bad of living near a national park should be given more of a discount" (personal communication, 2010).

Second, one of the most disagreed with concerns was "tourism negatively impacts employment". This was listed as a concern as some feel that tourism related employment can be low paying and seasonal compared to jobs in other industries.

Table 4.27 Possible Concerns

	Response (%)					Statistics	
Possible Concerns	**Strongly Disagree**	**Somewhat Disagree**	**Not Sure**	**Somewhat Agree**	**Strongly Agree**	**Mean**	**Std. Dev.**
Inflated goods and services	1.4	11.6	15.6	44.2	27.2	3.8	1.0
Inflated property values	1.4	8.3	22.8	40.7	26.9	3.8	1.0
Restricted activities allowed in PRNPR	6.2	8.9	24	33.6	27.4	3.7	1.1
Increase in non-resident ownership of property	3.4	15.0	25.9	34.7	21.1	3.6	1.1
Entrance fees reduced park use	27.4	13.0	2.1	18.5	39.0	3.3	1.7
Overuse of natural resources (e.g. water)	9.5	24.5	11.6	38.8	15.6	3.3	1.3
Crowding in community	5.5	33.1	9.0	34.5	17.9	3.3	1.2
Increase in non-resident ownership of businesses	8.2	23.8	36.1	25.2	6.8	3.0	1.0
Overuse of social services	7.5	30.6	27.9	27.2	6.8	3.0	1.1
Land near park degraded (e.g. from tourism development)	21.1	32.0	28.6	9.5	8.8	2.5	1.2
Support for PRNPR has decreased	36.7	23.8	9.5	22.4	7.5	2.4	1.4
Contributed to wildlife problems	35.1	31.1	16.2	12.2	5.4	2.2	1.2
Tourism negatively impacts employment	29.9	39.5	22.4	5.4	2.7	2.1	1.0

However, this low mean score indicates that tourism related employment is seen as a benefit by respondents from both Tofino and Ucluelet. One focus group participant suggested that

> "in terms of tourism in some ways the area has … what its given up its gained in terms of, I think, a broader range of, perhaps not the most high paying, but more jobs available to more people in the community and I mean my kids, our kids, have benefited from it" (personal communication, 2010).

In order to further strengthen the results of this study respondents were asked to rank the three concerns from Table 4.27 they felt were most important to them. Table 4.28 shows that the highest ranked concerns in terms of importance to residents of Tofino and Ucluelet are "entrance fees reduced park use" (44.9%), "inflated goods and services" (40.7%), and inflated property values (39.9%).

The high importance given to both inflation related concerns is similar to findings from Table 4.27 where both concerns received the highest mean scores of all possible concerns. However, the financial concern "entrance fees reduced park use" was rated as the most important concern overall by respondents in Table 4.28 yet this concern was ranked fifth by mean score in Table 4.27. A comment made by one respondent indicated that "because [they] are residents of the area [they] don't feel [they] should have to pay to access the amenities (such as PRNPR)" and as a result "it has been a number of years since [they] have used PRNPR facilities and beaches" (personal communication, 2010), a sentiment that was not uncommon amongst respondents.

The results from Table 4.28 indicate that the highest ranked concerns by importance to respondents are financial concerns. It is understandable that respondents rated these concerns highest as financial concerns may be more noticeable than concerns such as "crowding in the community".

The concerns that respondents gave the lowest overall importance to in Table 4.28 were "contributed to wildlife problems" (10.1%), "tourism negatively impacts employment" (5.4%), and "increase in non-ownership of businesses" (4.5%). When comparing these concerns to Table 4.27 a pattern similar to that

observed with the highest rated concerns can be observed. Both "contributed to wildlife problems" and "tourism negatively impacts employment" were ranked at the bottom of Tables 4.27 and 4.28. However, "increase in non-ownership of businesses" was ranked seventh of thirteen possible concerns in Table 4.27, yet is the lowest rated concern by importance.

Overall, the ranked findings in Table 4.28 are similar to the rankings in Table 4.27. This provides a measure of convergent validity, in that the two approaches to measuring concerns provide similar results.

Table 4.28 Most Important Concerns

	Response (%)			Chi-Square Test		
Possible Concerns	**Total**	**Tofino**	**Ucluelet**	**Value**	**df**	**Sig.**
Entrance fees reduced park use	44.9	38.8	58.2	5.4	1	0.02*
Inflated goods and services	40.7	34.8	51.4	3.8	1	0.05*
Inflated property values	39.9	35.8	46.8	1.8	1	0.18
Overuse of natural resources (e.g. water)	33.1	42.8	11.5	16.0	1	0.00*
Increase in non-resident ownership of property	29.5	29.3	30.8	0.0	1	1.00
Restricted activities allowed in PRNPR	24.1	24.6	23.6	0.0	1	1.00
Overuse of social services	19.3	19.8	18.9	0.0	1	1.00
Land near park degraded (e.g. from tourism development)	17.7	19.7	14.1	0.9	1	0.34
Crowding in community	16.9	19.7	11.5	1.6	1	0.21
Support for PRNPR has decreased	12.3	14.9	7.2	1.9	1	0.17
Contributed to wildlife problems	10.1	9.2	12.0	0.2	1	0.65
Tourism negatively impacts employment	5.4	4.8	6.8	0.3	1	0.58
Increase in non-resident ownership of businesses	4.5	4.5	4.7	0.0	1	1.00

In general, both communities appear to be affected by the concerns listed in Table 4.28 in a similar way, as most concerns show no significant difference between the communities. However, there are significant differences between the

communities for the concerns “overuse of natural resources”, “entrance fee reduced park use”, and “inflated goods and services”.

Table 4.29 uses the data from Table 4.28 and compares respondents’ perceptions of concerns by community. The data indicates that there are only two significant differences in perceived concerns between Tofino and Ucluelet. The possible concerns that exhibit statistically significant differences are “contributed to wildlife problems” and “tourism negatively impacts employment”, both of which are more of a concern for Ucluelet residents.

Table 4.29 Possible Concerns Compared by Community

	Mean Concern Score		t-test Statistics		
Possible Concerns	**Tofino**	**Ucluelet**	**t**	**df**	**Sig. (2 Tailed)**
Inflated property values	3.8	3.8	0.3	74	0.78
Inflated goods and services	3.8	3.8	-0.1	144	0.90
Restricted activities allowed in PRNPR	3.7	3.7	-0.4	143	0.70
Increase in non-resident ownership of property	3.6	3.5	0.4	144	0.73
Overuse of natural resources (e.g. water)	3.4	3.0	1.9	144	0.06
Crowding in community	3.3	3.2	0.4	142	0.72
Entrance fees Reduced park use	3.2	3.6	-1.4	143	0.16
Increase in non-resident ownership of businesses	2.9	3.1	-0.9	144	0.35
Overuse of social services	2.9	3.0	-0.8	144	0.44
Land near park degraded (e.g. from tourism development)	2.6	2.3	1.4	144	0.16
Support for PRNPR has decreased	2.3	2.6	-0.9	144	0.38
Contributed to wildlife problems	2.1	2.5	-2.1	78	0.04 *
Tourism negatively impacts employment	2.0	2.3	-2.0	144	0.05 *

Referring back to Table 4.28, in general, both communities appear to be affected by the possible concerns associated with PRNPR in a similar way, as there are few significant differences between the communities. However, there are

significant differences between the communities for the concerns “overuse of natural resources”, “entrance fee reduced park use”, and “inflated goods and services”.

The concern “overuse of natural resources” had the largest difference in importance as 42.8% of respondents from Tofino indicated this concern was one of their three most important concerns compared to 11.5% of respondents from Ucluelet. This large difference in importance may stem from an incident in the summer of 2006 when Tofino experienced water supply issues. This water shortage was largely blamed on outdated infrastructure that was not able to handle the demands of the large number of visitors to the town in the summer months.

The concern “entrance fees reduced park use” also exhibited a large difference in importance with 58.2% of Ucluelet respondents indicating that the concern was important while 38.8% of respondents from Tofino indicated the same. This is interesting as it may indicate the introduction of user fees has had a greater negative impact on residents of Ucluelet. It may also suggest that Ucluelet residents have access to more outdoor recreation areas that offer an experience similar to visiting PRNPR. Furthermore, residents of Ucluelet gave a higher level of importance to the concern “inflated goods and services”, 51.4%, compared to 34.8% of residents from Tofino.

When comparing possible concerns by attitude group in Table 4.30 a pattern similar to that found in Table 4.23 can be observed. For seven of the concerns listed in Table 4.30 respondents with a negative attitude rated these concerns significantly higher than respondents with a positive attitude towards the park. The remaining

six concerns show no significant difference between attitude groups indicating that respondents from both groups have a similar perception of these concerns. Overall, the findings from Table 4.30 suggest that perceived concerns may have an impact on attitude towards PRNPR, which is supported by the literature review conducted for this study.

Table 4.30 Possible Concerns Compared By Attitude

	Mean Concern Score		t-test Statistics		
Possible Concerns	**Negative Attitude**	**Positive Attitude**	**t**	**df**	**Sig. (1 Tailed)**
Inflated goods and services	4.6	3.8	3.6	142	.00 *
Inflated property values	4.4	3.8	2.7	140	.01 *
Entrance fees reduced park use	4.2	3.2	2.6	23	.01 *
Restricted activities allowed in PRNPR	4.1	3.6	1.5	141	.07
Increase in non-resident ownership of property	3.9	3.5	1.6	142	.06
Crowding in community	3.7	3.2	1.5	140	.08
Overuse of natural resources (e.g. water)	3.7	3.2	1.4	142	.08
Increase in non-resident ownership of businesses	3.7	2.9	3.0	142	.00 *
Support for PRNPR has decreased	3.7	2.2	4.7	142	.00 *
Overuse of social services	3.5	2.9	2.4	142	.01 *
Tourism negatively impacts employment	2.7	2.0	2.8	142	.01 *
Contributed to wildlife problems	2.5	2.2	0.9	142	.19
Land near park degraded (e.g. from tourism development)	2.3	2.6	-0.8	142	.23

Table 4.31 suggests that most respondents perceive PRNPR subjects them to similar concerns regardless of years lived in the community. The concerns "entrance fees reduced park use" and "tourism negatively impacts employment" received significantly different mean scores from respondents that have lived in the area for less than 15 years and more than 15 years.

Mean scores for the concern "entrance fees reduced park use" suggest that fees have not changed park use among respondents that have lived in the area for less than 15 years. However, fees have changed use patterns for respondents that have lived in the area for more than 15 years. This finding may be related to the fact that user fees were implemented in PRNPR 17 years ago in 1994 (Murphey, 1994).

Table 4.31 Possible Concerns Compared by Years Lived in the Area

	Mean Concern Score		t-test Statistics		
Possible Concerns	**Less than 15 years**	**More than 15 years**	**t**	**df**	**Sig. (2 Tailed)**
Inflated goods and services	3.8	3.9	-0.8	143	.45
Inflated property values	3.7	4.0	-1.5	140	.13
Restricted activities allowed in PRNPR	3.6	3.8	0.9	142	.36
Increase in non-resident ownership of property	3.5	3.6	-0.1	143	.90
Crowding in community	3.3	3.2	0.5	141	.63
Overuse of natural resources (e.g. water)	3.3	3.2	0.6	143	.55
Entrance fees reduced park use	3.0	3.7	-2.4	137	.02 *
Overuse of social services	2.9	3.0	-0.5	143	.59
Increase in non-resident ownership of businesses	2.9	3.0	-0.7	143	.49
Land near park degraded (e.g. from tourism development)	2.6	2.4	0.8	143	.44
Support for PRNPR has decreased	2.3	2.6	-1.1	122	.26
Contributed to wildlife problems	2.2	2.2	0.1	144	.94
Tourism negatively impacts employment	2.0	2.3	-1.9	120	.05 *

Table 4.32 compares possible concerns to tourism related employment. For this comparison it was expected that respondents with employment related to tourism would be less concerned with the concerns discussed in this section than those employed in other industries, similar to the patterns discussed in the benefits section. However, the results displayed in Table 4.32 generally do not support this

hypothesis as this pattern is only displayed for two of the thirteen possible concerns.

Table 4.32 Possible Concerns Compared by Tourism Related Employment

	Mean Concern Score		t-test Statistics		
Possible Concerns	**Employment Not Related to Tourism**	**Employment Related to Tourism**	**t**	**df**	**Sig. (1 Tailed)**
Inflated goods and services	4.0	3.8	0.9	136	.19
Inflated property values	3.9	3.8	0.8	134	.22
Restricted activities allowed in PRNPR	3.6	3.7	-0.8	135	.21
Increase in non-resident ownership of property	3.6	3.6	-0.0	136	.49
Entrance fees reduced park use	3.5	3.1	1.5	135	.07
Crowding in community	3.5	3.1	1.7	134	.04 *
Overuse of natural resources (e.g. water)	3.3	3.3	-0.1	136	.47
Overuse of social services	3.1	2.9	1.1	136	.14
Increase in non-resident ownership of businesses	3.1	2.9	0.9	136	.19
Land near park degraded (e.g. from tourism development)	2.6	2.6	0.0	136	.49
Support for PRNPR has decreased	2.6	2.2	1.8	107	.04 *
Tourism negatively impacts employment	2.2	2.1	0.8	136	.22
Contributed to wildlife problems	2.1	2.3	-0.9	137	.20

Table 4.33 displays results similar to those observed in Table 4.32 and other employment related comparisons made in section 4.5. As such, it was expected that people with employment related to the park would be less worried with the possible concerns associated with PRNPR. However, the data from Table 4.33 indicates that there are no statistically significant differences in perceptions between respondents that have jobs related to PRNPR and the respondents who have jobs that are unrelated to the park.

Table 4.33 Possible Concerns Compared by Park Related Employment

	Mean Concern Score		t-test Statistics		
Possible Concerns	**Employment Not Related to the Park**	**Employment Related to the Park**	**t**	**df**	**Sig. (1 Tailed)**
Inflated goods and services	3.9	3.9	-0.4	135	.35
Inflated property values	3.9	3.8	0.5	133	.32
Restricted activities allowed in PRNPR	3.6	3.8	-0.8	134	.22
Increase in non-resident ownership of property	3.6	3.6	0.0	135	.51
Entrance fees reduced park use	3.4	3.0	1.5	134	.08
Overuse of natural resources (e.g. water)	3.3	3.3	-0.1	135	.48
Crowding in community	3.3	3.2	0.5	133	.30
Increase in non-resident ownership of businesses	3.0	3.0	0.3	135	.39
Overuse of social services	2.9	3.1	-1.2	135	.12
Land near park degraded (e.g. from tourism development)	2.6	2.5	0.3	135	.38
Support for PRNPR has decreased	2.5	2.2	1.4	112	.09
Contributed to wildlife problems	2.1	2.4	-1.1	136	.13
Tourism negatively impacts employment	2.1	2.2	-0.8	135	.21

4.6.1 Perceived Concerns Summary

In general the results from this section suggest that respondents from Tofino and Ucluelet perceive living near PRNPR subjects them to a number of concerns. Most respondents indicated that they would agree that the park has subjected them to at least seven of the thirteen concerns discussed in this section. In addition, there were few significant differences in perceived concerns between communities, which suggests that the park impacts both communities in a similar way. Despite this, it was observed that a respondent's perception of the concerns associated with PRNPR may have an impact on their attitude towards the park.

When comparing perceived concerns to employment no relationship was found. Results from this section suggest that respondents perceive the concerns discussed in this section in a similar way regardless of employment type.

4.7 Community Changes

Another way to explore the impacts protected areas can have on nearby communities is to examine how livelihoods have been altered since park establishment. In order to understand how PRNPR has impacted Tofino and Ucluelet, respondents were asked to evaluate a number of possible changes that may have occurred in their community over time. Mean scores contained in the tables for this section are based on a five point scale that ranges from 1 = "much worse" to 5 = "much better".

Table 4.34 contains data concerning possible changes in both study sites over time. Results are rank ordered by mean so that the most positive changes appear at the top of the table while the most negative changes appear at the bottom. Respondents indicated that "access to affordable goods and services", "access to affordable housing", and "access to affordable land" had become at least somewhat worse, while "access to outdoor recreation" has become at least somewhat better since they have lived in the area.

Respondents appear to be divided on how "access to employment" has changed since they have lived in the community as roughly a third of respondents indicated it was worse, another third said it had not changed, and another third indicated it had changed for the better. This distribution of responses may be related to a respondents' length of residence in the area as the economies of Tofino

and Ucluelet have transitioned from resource based to tourism based. During an interview, a long time Tofino resident recalled that

> "the main industries were logging and fishing and that's disappeared so … it's a good thing something (tourism) came in its place because it was logging, fishing and tourism you know maybe one third, one third, one third for a while and not very much tourism in the winter" (Personal communication, 2010).

Table 4.34 Possible Community Changes

	Response (%)					Statistics	
Possible Changes	**Much Worse**	**Somewhat Worse**	**No Change**	**Somewhat Better**	**Much Better**	**Mean**	**Std. Dev.**
Access to outdoor recreation	1.4	6.3	40.8	35.9	15.5	3.6	0.9
Access to community interest groups	0.7	2.8	54.5	30.8	11.2	3.5	0.8
Access to social networks	2.8	4.9	50.0	31.9	10.4	3.4	0.8
Access to indoor recreation	2.1	13.6	47.9	29.3	7.1	3.3	0.9
Access to surrounding communities	4.2	9.7	52.1	30.6	3.5	3.2	0.8
Access to workplace training	6.3	9.9	55.6	22.5	5.6	3.1	0.9
Access to professional development	5.0	10.6	58.9	19.9	5.7	3.1	0.9
Access to employment	12.6	21.0	35.0	28.7	2.8	2.9	1.1
Access to higher education	7.7	14.0	65.0	11.9	1.4	2.9	0.8
Access to health care	7.0	23.1	52.4	14.7	2.8	2.8	0.9
Access to natural resources	12.8	31.2	46.1	7.8	2.1	2.6	0.9
Access to affordable goods and services	16.0	46.5	27.8	8.3	1.4	2.3	0.9
Access to affordable housing	36.1	38.9	19.4	3.5	2.1	2.0	0.9
Access to affordable land	48.6	31.3	18.8	0.7	0.7	1.7	0.8

Table 4.35 breaks down the data from the previous table and compares it by community. The changes "access to community interest groups", "access to employment", "access to healthcare", and "access to natural resources" had mean scores that were significantly different. The difference in mean scores for these four

changes indicates that respondents from Tofino perceive these changes to be better in their community when compared to respondents from Ucluelet.

Table 4.35 Possible Community Changes Compared by Community

	Mean Change Score		t-test Statistics		
Possible Changes	**Tofino**	**Ucluelet**	**t**	**df**	**Sig. (2 Tailed)**
Access to community interest groups	3.6	3.3	2.0	141	0.05 *
Access to outdoor recreation	3.6	3.6	0.0	140	0.98
Access to social networks	3.5	3.3	1.5	142	0.14
Access to surrounding communities	3.3	3.1	1.4	142	0.15
Access to indoor recreation	3.3	3.3	-0.1	138	0.89
Access to workplace training	3.2	2.9	1.7	140	0.09
Access to employment	3.2	2.3	5.3	141	0.00 *
Access to professional development	3.2	3.0	1.1	139	0.27
Access to health care	2.9	2.6	2.2	141	0.03 *
Access to higher education	2.9	2.7	1.7	89	0.10
Access to natural resources	2.7	2.3	2.1	71	0.04 *
Access to affordable goods and services	2.4	2.2	1.2	142	0.22
Access to affordable housing	2.0	1.8	1.4	142	0.18
Access to affordable land	1.8	1.6	1.2	142	0.23

Table 4.36 indicates that, for those changes with significant differences between attitude groups, respondents with a positive attitude towards PRNPR had a higher mean score compared to those respondents with a negative attitude. Of the changes with significant differences between attitude groups "access to employment" presents the most interesting finding. This change received a mean score of 3.0 from respondents with a positive attitude and a mean score of 2.2 from respondents with a negative attitude. Looking at these means it would appear that, even for those with positive attitudes, respondents perceive that "access to employment" has either not changed or is worse in the communities.

Table 4.36 Possible Community Changes Compared by Attitude Towards PRNPR

	Mean Change Score		t-test Statistics		
Possible Changes	**Negative Attitude**	**Positive Attitude**	**t**	**df**	**Sig. (1 Tailed)**
Access to community interest groups	3.1	3.5	-3.1	27	.00 *
Access to indoor recreation	3.1	3.3	-0.6	135	.28
Access to outdoor recreation	2.9	3.7	-3.8	137	.00 *
Access to surrounding communities	2.9	3.3	-1.9	138	.03 *
Access to social networks	2.8	3.5	-3.5	138	.00 *
Access to workplace training	2.8	3.2	-1.2	19	.13
Access to professional development	2.8	3.2	-1.7	136	.04 *
Access to higher education	2.8	2.9	-0.6	138	.29
Access to health care	2.6	2.9	-1.4	137	.09
Access to natural resources	2.3	2.6	-1.2	136	.11
Access to employment	2.2	3.0	-3.3	138	.00 *
Access to affordable goods and services	2.1	2.4	-1.2	138	.13
Access to affordable housing	1.7	2.0	-1.5	138	.07
Access to affordable land	1.5	1.8	-1.3	138	.10

4.7.1 Community Changes Summary

Results from this section parallel the results from the sections 4.5 (Benefits) and 4.6 (Concerns). While there are differences in perceptions between respondents from Tofino and Ucluelet, both communities appear to have similar perceptions of how the communities have changed over time. However, it was observed that, generally, respondents from Ucluelet saw more negative change in their community compared to respondents from Tofino. In addition, respondents who had positive attitudes towards PRNPR were generally more positive when responding to the possible changes discussed in this section.

4.8 Community Involvement with PRNPR

The "new paradigm", discussed in the literature review, suggests that increased involvement in protected area management can increase community

support for parks. This section describes how members of each community are involved with the park. Section 4.8 details the types of activities respondents have been involved in and the level of involvement respondents have had with the park.

Overall, the results presented in Table 4.37 indicate the types of involvement with the highest participation rates were "read a newspaper or magazine article" (81.5%), "read a park publication or news letter" (51.0%), and "watched a TV program or film" (43.8%). The activities that respondents participated in the least were "belonged to a park related organization or committee" (14.4%), "not involved or interested" (6.8%), and "employed by the park" (5.5%). These results suggest that respondents are mainly involved with the park passively.

Table 4.37 Involvement with PRNPR

	Response (%)			Chi-Square Test		
Type of Involvement	**Total**	**Tofino**	**Ucluelet**	**Value**	**df**	**Sig.**
Read a newspaper or magazine article	81.5	80.2	84.0	0.3	1	0.58
Read a park publication or news letter	51.0	55.8	42.0	2.5	1	0.11
Watched a TV program or film	43.8	44.8	42.0	0.1	1	0.75
Visited a park related website	39.3	41.7	34.7	0.7	1	0.42
Listened to a radio program	24.7	27.1	20.0	0.9	1	0.35
Attended a public meeting	16.4	20.8	8.0	3.9	1	0.05 *
Belonged to a park related organization or committee	14.4	15.6	12.0	0.4	1	0.55
Not involved or interested	6.8	7.3	6.0	0.09	1	0.80
Employed by the park	5.5	5.2	6.0	0.04	1	0.84

Furthermore, the results from the table indicate that residents of both Tofino and Ucluelet are involved with PRNPR in similar ways when compared by community. However, significantly more respondents from Tofino indicated they

had “attended a public meeting” compared to respondents from Ucluelet. It is somewhat surprising that, in Table 4.37, more respondents indicated that they had either “read a newspaper or magazine article” or “read a park publication or newsletter” compared to “visited a park related website”.

Based on the results of Table 4.38 it would appear that most respondents have been involved in between one and three activities related to PRNPR. The chi-square data for this question suggests that there is a significant difference in the level of involvement between Tofino and Ucluelet. For the response category “involved in 2 activities” 30.6% of respondents from Ucluelet indicated they were involved in two park related activities while 17.9% of respondents from Tofino indicated the same. All other response categories appear to be similar when compared by community.

Table 4.38 Level of Involvement with PRNPR

	Response (%)		
Level of Involvement	**Total**	**Tofino**	**Ucluelet**
Involved in 1 activity	23.6	24.2	22.4
Involved in 2 activities	22.2	17.9	30.6
Involved in 3 activities	19.4	18.6	20.4
Involved in 4 activities	16.0	17.9	12.2
Involved in 5 activities	11.1	13.7	6.1
Involved in more than 5 activities	5.6	6.3	4.1
Not involved at All	2.1	1.1	4.1
Mean involvement	2.8	3.0	2.6
Chi-Square Test - Value: 7.9**, df:** 8**, Sig.: 0**.44			

The results displayed in Table 4.39 indicate that respondents with a positive attitude (mean 3.0) towards PRNPR were more involved with the park compared to respondents with a negative attitude (mean 2.0). Additionally, the table also displays large differences between attitude groups for those involved in one and

four activities. Results suggest that negative respondents were more likely to be involved in a single activity compared to respondents with positive attitudes, while the opposite is true for those with four activities. However, caution should be used when interpreting the results of this table as it does not indicate the if respondents were involved with passive or active activities.

Table 4.39 Level of Involvement With PRNPR by Attitude

	Response (%)	
Level of Involvement	**Negative**	**Positive**
Involved in 1 activity	44.4	21.3
Involved in 2 activities	16.7	23.0
Involved in 3 activities	22.2	18.0
Involved in 4 activities	0.0	18.9
Involved in 5 activities	11.1	10.7
Involved in more than 5 activities	0.0	6.6
Not involved at All	5.6	1.6
Mean involvement (t-test)	2.0	3.0
t-test - t:-2.5, **df:** 138, **Sig.:** .03		

4.8.1 Community Involvement Summary

The results of this section suggest that residents of both Tofino and Ucluelet are involved with the park in similar ways. This section also suggests that most respondents are involved passively with PRNPR and have been involved in between one to three of the activities discussed in this section. Furthermore, it was observed that respondents with a positive attitude were more involved with PRNPR than respondents with a negative attitude.

4.9 Chapter Summary and Discussion

The results of this study indicate that residents of Tofino and Ucluelet generally have a positive attitude towards the park and perceive PRNPR subjects their communities to a number of concerns and benefits. It is important to note that

the "perceptions" discussed in this study may not reflect the "actual" impact PRNPR has had on the surrounding communities. However, it is imperative that residents' perceptions of the park are examined as perceptions are often related to attitudes and support for protected areas.

This chapter summary has been structured so that key findings from the results chapter appear under the related research questions. In addition, this section will also provide a discussion of how the findings of this study compare to pervious research on the relationship between protected areas and adjacent communities.

(Q1) What is the attitude and level of support for PRNPR amongst residents of Tofino and Ucluelet?

Results from this study suggest that most respondents have a positive attitude towards PRNPR. Key findings with regards to attitudes can be summarized as follows:

- 88.4% of Tofino respondents and 85.4% of Ucluelet respondents had a positive attitude towards PRNPR
- Respondents attitudes towards PRNPR were not influenced by employment related to the park or tourism
- Length of residence had minimal impact on attitudes towards the park
- Attitude towards PRNPR was found to be linked to (1) perceived concerns and benefits, (2) perceived changes in the community, and (3) level of involvement with the park

Results from previous studies suggest that attitudes and support for protected areas from members of adjacent communities can vary considerably from one protected area to the next. The literature suggests that attitudes towards protected areas may be influenced by a number of factors. Positive attitudes

towards protected areas have been found to be associated with the receipt of benefits, good relations with PA staff, higher education levels (Tessema, Lilieholm, Ashenafi, & Leader-Williams, 2010), park related employment (Anthony, 2007), and age (Anthony, 2007; Ferreira & Freire, 2009). Whereas negative attitudes towards protected areas have been found to be associated with poor relations with park staff, a lack of perceived benefits (Fiallo & Jacobson, 1995), negative past events or experiences caused by protected area establishment or management (Kideghesho, Roskaft, & Kalterborn, 2006; Anthony, 2007), age (Anthony, 2007), length of residence (Ferreira & Freire, 2009), and non-tourism related employment (Tessema, Lilieholm, Ashenafi, & Leader-Williams, 2010).

The results of this study indicate that the majority (over 85%) of respondents from both Tofino and Ucluelet have positive attitudes towards PRNPR. Unlike previous studies, attitudes towards PRNPR were not influenced by employment or length of residence. Results suggest that attitudes towards PRNPR are not related to employment in tourism or PRNPR as over 85% of the sample indicated they had a positive attitude towards the park regardless of employment type.

Furthermore, there was no significant difference observed in attitude towards the park between residents who had lived in the area for less than 15 years or more than 15 years. This suggests that (1) older respondents may have changed their attitude towards PRNPR over time, or (2) that those opposed to the park may have moved out of the area.

Previous research has found that positive attitudes towards a protected area may be linked to support for that area (Allendorf, Swe, Oo et al., 2006). Based on the number of respondents with positive attitudes towards the park in all attitudinal based comparisons it is reasonable to suggest residents of Tofino and Ucluelet support PRNPR. Furthermore, the results of this study indicate that attitudes towards PRNPR are not tied to any demographic variables, which differs from the previous studies mentioned above. However, it was observed that attitudes are linked to three sets of factors:

1. Perceptions of concerns and benefits
2. Perceptions of change in the communities
3. Level of involvement with PRNPR

(Q2) How do residents of Tofino and Ucluelet perceive they benefit from living near PRNPR?

Based on the results of this study, residents of Tofino and Ucluelet perceive they receive a range of economic, environmental, and social benefits as a result of living near PRNPR. Key findings regarding perceived benefits are summarized as follows:

- Approximately 80%, or more, of respondents indicated they would agree that the park has "increased visitation" in the area, "preserved local landscapes", "protected biodiversity", and "preserved public access to nature"
- Respondents indicated the benefits they valued most were "protected biodiversity" (54.0%), "preserved public access to nature" (43.5%), and "preserved local landscapes" (37.0%), which suggests that respondents value conservation benefits over other benefit types
- Respondents employed in the tourism industry rated the benefits "increased visitation", "preserved local landscapes", "protected

biodiversity", and "increased conservation awareness" higher than respondents employed in other industries

- Length of residence, employment related to PRNPR and, income level had minimal impact on benefit perception

According to Parks Canada, national parks like PRNPR are beneficial to adjacent communities as they provide ecosystem services, conserve unique flora and fauna, create economic diversification, improve infrastructure, increase visitation, and create employment opportunities (Johnson & Pinkerton, 2010; Rosset, 2010). The results of this research suggest that respondents perceive that PRNPR is providing them with a number of these benefits as over 80% indicated they thought the park has increased visitation in the communities, helped to preserve local landscapes, protected biodiversity in the area, and has preserved public access to nature. Respondents also indicated they thought the park has provided their communities with several other benefits, such as employment.

The results of this study are also supported by a study conducted by B.C. Parks that found B.C. residents perceive a range of benefits related to provincial parks. The study found B.C. residents value conservation benefits, such as the protection of special natural features and the preservation of natural environments, more than other benefit types (Dyck, 2002).

Previous research also indicates that national parks are perceived to provide similar benefits on a national scale. In a national survey conducted by Parks Canada (2009), 60% of Canadians felt national parks were created to protect "natural wilderness areas threatened by human development" (p.ii). In addition, it has been suggested that the conservation values espoused by national parks are highly valued

by Canadians, even if they are not park users (Shultis & More, 2011). This may suggest that Canadians perceive parks in a similar way at a regional, provincial, and national level.

In addition, Parks Canada publications suggest that parks also play a key role in tourism development in adjacent communities. For example, Parks Canada works with local organizations, such as Tourism Tofino and Tourism Ucluelet, to promote the area in an effort to attract visitors to the area (Parks Canada, 2010b). This is important, as PRNPR does not have the necessary amenities to accommodate the approximately 750,000 people who visit the park annually. Instead, the park relies on the adjacent communities to offer visitors a variety of services and activities that capture visitor interest (Parks Canada, 2008). As a result, PRNPR has helped to support local communities through a shift from an economy focused on logging, fishing, and mining to a tourism based economy that has resulted in a number of benefits for adjacent communities.

However, in this context increased community visitation and tourism development can not be solely attributed to the park. Both Tofino and Ucluelet offer a variety of nature based tourism experiences similar to those found in the national park. In addition, visitors can participate in activities, such as whale watching and sport fishing, in the communities that are not offered in PRNPR. For many the park is regarded as more of an attraction that complements other tourist experiences that are based in Tofino and Ucluelet. Nevertheless, the park plays a key role in conserving the natural features that support the local tourism industry outside of the park.

Previous studies conducted in other nations, such as Brazil (Ferreira & Freire, 2009), Ethiopia (Tessema, Lilieholm, Ashenafi, & Leader-Williams, 2010), Myanmar (Allendorf, Swe, Oo, & Htut et al., 2006), and Nepal (Allendorf, Smith, & Anderson, 2007) have found that residents of communities located in or around protected areas perceive they receive a range of environmental, economic, and social benefits. The results of a case study conducted in Nepal (Allendorf, Smith, & Anderson, 2007) found that conservation related benefits represented the benefit type most mentioned by respondents, which is similar to the findings of this research.

While conservation benefits are important, many studies suggest that for conservation efforts to succeed communities need to be provided with economic benefits that can offset the costs of these areas. However, the provision of non-economic benefits, such as conservation benefits, may be as important, or more important, than economic benefits in generating support for protected areas (Allendorf, 2007).

(Q3) How do residents of Tofino and Ucluelet perceive they are subjected to concerns as a result of living near PRNPR?

The results of this study suggest that while PRNPR provides the communities of Tofino and Ucluelet with a range of benefits, the park also subjects the communities to a number of concerns.

- The concerns that respondents at least somewhat agreed with were "inflated goods and services" (71.4%), "inflated property values" (67.6%), "restricted activities allowed in PRNPR" (61.0%), "entrance fees reduced park use" (57.5%), and "increase in non-resident ownership of property" (55.8%) in the area

- The concerns found to be of the greatest importance to respondents were "entrance fees reduced park use" (44.9%), "inflated goods and services" (40.7%), and inflated property values (39.9%), all of which are financial concerns
- Respondents that have lived in the area for more than 15 years indicated that they used the park less due to park use fees
- Employment type and income level had a minimal impacts on respondents' perception of concerns related to PRNPR

The results of this study indicate that respondents have been most affected by park use fees and inflated prices for goods, services, and property. Previous studies have shown that protected areas may subject communities to similar financial concerns both in Canada (e.g. Fortin & Gagnon, 1999; Shultis & More, 2011) and in other nations, such as Nepal (Allendorf, 2007) and Uganda (Hartter & Goldman, 2010).

In Canada, it is difficult to assess the negative impacts protected areas have had on communities as there is little written on the subject. In reviewing Parks Canada related publications the main concerns mentioned are displacement (see Mcnamee, 2010) and park use fees (see Parks Canada, 2008). PRNPR was created in 1970, a time when Parks Canada was focused on expanding the park system with little regard for adjacent communities. As a result, park establishment coincided with expropriation and

> "landowners felt they had no choice but to accept the government's financial offers, and to relocate to nearby communities. These decisions fostered negative relationships between the parks and the communities for years, sometimes generations" (Mcnamee, 2010, p.143).

While expropriation was briefly discussed during the focus group conducted as part of this research, and may have been an issue that has impacted respondents' perceptions of PRNP, it was not discussed in the questionnaire.

Many respondents indicated that they felt they should not have to pay to access PRNPR, for a variety of reasons. According to Parks Canada (2008) after user fees were introduced at PRNPR in 1994 there were expectations that current service levels would be maintained or increased. However, many parks related services and assets have not improved, "in fact many assets are in poor condition and continue to degrade" (Parks Canada, 2008, p.59). The report goes further and suggests that, in general, visitors find the services they receive when visiting PRNPR to be of poor value for the money. If visitors to the area perceive the user fees to be overly expensive, it is not surprising that the residents of adjacent communities have taken issue with the fees. This finding is similar to findings from a study conducted in several communities located near Saguenay National Park and the adjoining Saguenay–St. Lawrence National Marine Conservation Area in Quebec where user fees were identified to be among several factors responsible for altering residents use of the parks (Fortin & Gagnon, 1999).

Furthermore, it has been found that communities adjacent to protected areas may experience inflation as a result of tourism development. Communities near the aforementioned national parks in Quebec experienced significant increases in the "cost of accommodation, in assessed and market value of private properties (a near tripling of market value in some cases), in municipal taxes (particularly on commercial properties), and in the municipal debt load" (Fortin & Gagnon, 1999,

p.206). This may suggest that national parks in Canada may play a significant role in increasing the cost of living in adjacent communities.

Internationally, a number of studies have found that protected areas subject adjacent communities to costs such as expropriation, exclusion, loss of traditional harvesting rights (see Ferreira & Freire, 2009). These costs can have dramatic impacts on the livelihoods of community members that live near protected areas. For example, one case study from Ghana indicated that by forgoing the harvest of natural resources from Kakum National Park residents from the surrounding villages have experienced dramatic changes in their daily activities, sources of income, and food sources (Appiah-Opku, 2011).

The literature also indicates that many communities located near protected areas experience problems with wildlife. In areas that feature large or potentially dangerous animals, local communities may experience crop raiding and livestock predation (Gadd 2005; Brandon 2007; Harter 2010). The damage caused by wildlife in these interactions can be devastating to the livelihoods of those participating in farming near protected area boundaries. However, residents of Tofino and Ucluelet did not perceive park wildlife to be of concern.

However, there have been a number of negative human-wildlife interactions in the areas surrounding PRNPR and in the park its self. Beginning in the 1990's, PRNPR began receiving a growing number of reports regarding negative user experiences with large predators such as bears, wolves, and cougars. For example, a child was recently attacked by a cougar while visiting PRNPR in August of 2011. As

a result, the "Wildcoast Project" was established in 2004 to examine these negative interactions and better understand the causes for these interactions.

(Q4) How do perceptions of concerns and benefits differ between residents of Tofino and Ucluelet?

Respondents from both Tofino and Ucluelet perceive that the park has subjected their communities to similar concerns and benefits. However, there were several key differences in perceptions between communities, which are summarized as follows:

Benefits

- Tofino respondents indicated that they perceived "increased conservation awareness" to be more of a benefit than respondents from Ucluelet
- The benefit "preserving public access to nature" was significantly more important to residents of Tofino compared to residents of Ucluelet
- The benefit "increased employment" was found to be significantly more important to respondents from Ucluelet compared to Tofino

Concerns

- Respondents from Tofino were more concerned with "overuse of natural resources" by visitors to the community compared to respondents from Ucluelet
- However, respondents from Ucluelet were more concerned with park use fees and inflation of goods and services compared to respondents from Tofino

The results of this study suggest that PRNPR subjects Tofino and Ucluelet to a similar range of concerns and benefits. Comparable results have been observed in other studies conducted in communities adjacent to protected areas in Ecuador and Nepal (Fiallo & Jacobson, 1995; Spiteri & Nepal, 2008). However, a number of studies have found that protected areas benefit some adjacent communities more

than others (Anthony, 2007; Hartter & Goldman, 2010; Triguero-mas, Olomi-Sola, & Jha et al., 2010; Appiah-Opoku 2011). In this instance, it would appear that residents of Tofino are more perceptive of environmental concerns and benefits compared to respondents from Ucluelet. While residents of Ucluelet are more perceptive of financial concerns and benefits related to PRNPR.

The literature suggests that one of the main factors affecting the distribution of costs and benefits in communities adjacent to a protected area is distance (Anthony, 2007; Hartter & Goldman, 2010; Triguero-mas, Olomi-Sola, & Jha et al., 2010). In these studies it was found that communities located closest to the protected area under study were subjected to a greater number of costs than those located farther from park boundaries. For this study, impacts may be similar as both communities are located approximately the same distance from the park. It has also been found that benefits may be linked to a community's ability to take advantage of potential protected area benefits (Appiah-Opoku 2011).

(Q5) How have livelihoods changed in Tofino and Ucluelet?

Results from this research indicate that respondents do not perceive much has changed in Tofino or Ucluelet since they have lived in the area. However, the area has transitioned from a resource based economy to a tourism based economy and seen the establishment of several protected areas in the past 50 years. Key findings regarding this research objective are as follows:

- According to most respondents there has been little change in Tofino and Ucluelet since they have lived in the area

- Respondents indicated that "access to affordable land" (79.9%), "access to affordable housing" (75.0%), and "access to affordable goods and services" (62.5%) had become at least somewhat worse
- In Tofino, respondents indicated there has been little change in "access to employment" while respondents from Ucluelet indicated this had become worse

Residents of Clayoquot Sound, where PRNPR is located, have relied on natural resources for their livelihoods for centuries, however this has changed recently. In the late 1800's high demand for sea otter pelts led to a near extinction of the species and a subsequent decline in harvesting by the mid-1900's (Parks Canda, 2010b). This pattern of "crest and decline" in natural resource extraction continued in the area until relatively recently. The area has since transitioned from a resource based economy to an economy based primarily on tourism (Vaugeois & Rollins, 2007). .

Tourism development has been promoted as a strategy for economic diversification in rural communities in British Columbia, such as Tofino and Ucluelet, that experience declines in resource based economies and have few alternative employment options (Vaugeois & Rollins, 2007). Tourism development can help to provide displaced resource workers with new employment opportunities and improve community amenities, such as schools and recreation facilities (ibid). Furthermore, many residents of rural communities view opportunities to work in the tourism industry in a positive way, including those previously employed in extractive industries (ibid).

In general, results from this section indicate that most of the current residents of Tofino and Ucluelet perceived little has changed since they have lived in

the community. This may be due to the fact that a large number of people surveyed have moved to the area relatively recently and are unfamiliar with what the communities were like when they were economically focused on resource extraction.

However, the results reveal that there have been some perceived changes in the area. Respondents from Ucluelet indicated that employment prospects had become worse since they have lived in the area, while respondents from Tofino did not notice a change. This may be because Ucluelet previously had a higher number of individuals working in resource based employment.

Respondents also indicated that since they had lived in the area the cost of living had become more expensive. Respondents indicated that "access to affordable land" (79.9%), "access to affordable housing" (75.0%), and "access to affordable goods and services" (62.5%) had become at least somewhat worse. According to Parks Canada, national parks and historic sites are beneficial to adjacent communities as they contribute to "regional economic development", usually in the form of tourism, and the "wellbeing" of communities (Parks Canada, 2010a). While this would appear to be true based on the previous discussion of concerns and benefits, respondents indicated they felt that the park has had a minimal impact on livelihoods.

Chapter 5 Conclusions

5.1 Introduction

The purpose of this chapter is to outline the main contributions of this research, make recommendations for future research, and discuss the limitations of this study. To review, this study was designed to address the following research questions:

1. What is the attitude and level of support for PRNPR amongst residents of Tofino and Ucluelet?
2. How do residents of Tofino and Ucluelet perceive they benefit from living near PRNPR?
3. How do residents of Tofino and Ucluelet perceive they are subjected to concerns as a result of living near PRNPR?
4. How do perceptions of concerns and benefits differ between residents of Tofino and Ucluelet?
5. How has PRNPR has shaped livelihoods in Tofino and Ucluelet?

This study employed a focus group (n=6) to gather preliminary information regarding attitudes and perceptions of Pacific Rim National Park Reserve (PRNPR). Results from the focus group were combined with a review of relevant protected area literature to develop the survey instrument for this project. The primary data collection instrument utilized for this study was a questionnaire (n=149, response rate 68.9%) that was administered to respondents from Tofino and Ucluelet using the drop off method.

This chapter is comprised of six sections: section 5.2 discusses how Parks Canada's management of PRNPR relates the "new paradigm" proposed by Phillips (2003), section 5.3 discusses how this research has contributed to the literature

focused on attitudes and perceptions of protected areas; section 5.4 focuses on recommendations to protected area managers, specifically Parks Canada; section 5.5 discusses the limitations of this research; section 5.6 identifies areas for future research; and section 5.7 identifies several knowledge mobilization activities that could be used to share the information discussed in this thesis.

5.2 PRNPR and the "New Paradigm"

Since PRNPR was established in 1970 there has been a dramatic shift in thinking surrounding protected area management. During this time it was common for Parks Canada to establish national parks with little regard for adjacent communities (Mcnamee, 2010). However, over the past 40 to 50 years protected area management strategies have become more "people focused" and concerned with providing nearby communities with benefits and increasing stakeholder participation in protected area management (Phillips, 2003). According to Phillips (2003), this change in thinking represents a "new paradigm" of protected area management. This section attempts to situate Parks Canada's management of PRNPR within the objectives of the two paradigms suggested by Phillips displayed below in Table 5.1 (for a more comprehensive discussion of the "new paradigm" see the literature review contained in this thesis).

While PRNPR was initially created for conservation purposes and managed mainly for tourists, the current management plan proposes four strategies that place an increased focus on the "new paradigm". According to the management plan, PRNPR management is focused on (1) working with First Nations partners, (2) protecting and restoring cultural resources and ecological integrity, (3) managing

the coastal zone with the help of local stakeholders, and (4) enhancing community relations and visitor experience (Parks Canada, 2010b).

Table 5.1 Objectives of Phillips' Protected Area Paradigms

As it was: protected areas were …	**As it is becoming: protected areas are …**
• Set aside for conservation	• Run also with social and economic objectives
• Established mainly for spectacular wildlife and scenic protection	• Often set up for scientific, economic, and cultural reasons
• Managed mainly for visitors and tourists	• Managed with local people more in mind
• Valued as wilderness	• Valued for the cultural importance of so-called wilderness
• About protection	• Also about restoration and rehabilitation

(Phillips, 2003)

Strategies 1, 3, and 4 suggest that park management is managing PRNPR with local people in mind. The PRNPR management plan indicates that managers are working with a number of local First Nations groups to develop cooperative management agreements in order to increase their role in the management of their traditional lands (Parks Canada, 2010b). The park also works with a number of adjacent community organizations, such as Tourism Tofino and Tourism Ucluelet, in an attempt to meet both the needs of park management and local residents. In addition, PRNPR also solicited feedback from the adjacent communities on the proposed park management plan in an effort to give the community some input on the future management direction of PRNPR (ibid).

Strategy 2 suggests that PRNPR management is also concerned with ensuring the park is valued for the conservation of wilderness, ecological restoration, and

rehabilitation. According to the results of this research, a majority of respondents feel that PRNPR provides them with several conservation related benefits at a regional level. At a national scale, Canadians indicated they thought national parks were very important to conserve nature for current and future generations and are a source of pride for many Canadians (Parks Canada, 2009).

In summary, this discussion suggests that the management practices employed by PRNPR have evolved significantly since the 1970's. Based on information contained in the current PRNPR management plan the park is being run in a way that is more considerate of the needs and wishes of local people. Furthermore, the conservation efforts of Parks Canada appear to be valued by people at both a regional and national level. Based on the information contained in the PRNPR Management Plan (2010a) and the results of this research it would appear that park managers are focused on objectives from both the classic and new paradigms of protected area management as described by Phillips.

5.3 Contributions of This Research

In determining how PRNPR has impacted the adjacent communities of Tofino and Ucluelet this research has contributed new knowledge to the literature surrounding the impacts of protected areas on local communities. The results of this study:

- add new information to the literature regarding perceptions of protected areas by describing perceptions in a Canadian context
- provide Parks Canada with social science research that can help PRNPR management better understand the perceptions of adjacent communities
- and provide Parks Canada with park usage data from adjacent communities

5.3.1 Perceptions in a Canadian Context

Many of the studies conducted previously concerning perceptions and attitudes of protected areas have been conducted in developing countries in Africa, Asia, and South America where protected area establishment may have dramatic impacts on communities located in or adjacent to protected areas. To date few studies have focused on perceptions and attitudes in communities located near Canadian national parks (e.g. Fortin & Gagnon, 1999).

Internationally, research has found that those who live in or adjacent to protected areas perceive they receive a range of environmental, economic, and social benefits (e.g. Allendorf, Smith, & Anderson 2007; Hartter & Goldman, 2010; Tessema, Lilieholm, Ashenafi, & Leader-Williams, 2010). In addition, local residents also perceive they are subject to a number of social and financial costs (e.g. Fortin & Gagnon, 1999; Allendorf 2007; Hartter & Goldman, 2010; Shultis & More, 2011) as a result of living near a protected area. This research suggests that the residents of Tofino and Ucluelet, British Columbia Canada perceive they receive a range of concerns and benefits that are similar to those perceived in communities spread across Africa, Asia, and South America. These similarities may indicate that protected areas impact adjacent communities in similar ways on a global scale. However, the relative importance of the concerns and benefits related to protected areas likely varies significantly from area to area.

While there are similarities between countries and continents in benefit and concern perception each protected area can impact adjacent communities in different ways, even at a local scale. In this study, it was found that the residents of

Tofino and Ucluelet perceived PRNPR impacted their communities in similar ways. However, in other studies it was found that benefit and cost perception often differ between communities and may be influenced by a number of factors at a regional level such as distance from the protected area (Triguero-mas, Olomi-Sola, & Jha et al., 2010) and a community's ability to take advantage of possible protected area benefits (Appiah-Opoku 2011).

Pervious studies have found that positive attitudes towards protected areas are associated with the receipt of benefits, good relations with PA staff, higher education levels (Tessema, Lilieholm, Ashenafi, & Leader-Williams, 2010), park related employment (Anthony, 2007), and age (Anthony, 2007; Ferreira & Freire, 2009). Negative attitudes have been found to be associated with poor relations with park staff, a lack of perceived benefits (Fiallo & Jacobson, 1995), negative past events or experiences caused by protected area establishment or management (Kideghesho, Roskaft, & Kalterborn, 2006; Anthony, 2007), age (Anthony, 2007), length of residence (Ferreira & Freire, 2009), and non-tourism related employment (Tessema, Lilieholm, Ashenafi, & Leader-Williams, 2010).

Overall, the results of this study suggest that 85% of respondents had a positive attitude towards PRNPR. The results of this study differ from previous studies in that attitudes did not appear to be influenced by employment type or years lived in the community. This is supported by the fact that, in general, Canadians value and support national parks, even if they do not use them (Parks Canada, 2009)

5.3.2 Parks Canada Social Science Needs

According to the PRNPR management plan, Parks Canada (2010b) is in need of additional social science information to both better understand local communities and park use by visitors. The desired research "will provide an essential foundation to studying and understanding [the adjacent] communities and park visitors". This is important, as "relationships with local and regional partners are critical to the long-term success of the park" (Parks Canada 2010b, p. 40). The results of this research should provide Parks Canada with information that will help park management better understand community perceptions of PRNPR, community attitudes toward the park, and park use by adjacent communities.

On a national scale Parks Canada is looking to align the organization's conservation actions and approaches with the values, beliefs, and interests held by Canadians (Rosset, 2010). According to several Parks Canada related publications national parks provide Canadians with a variety of benefits such as ecosystem services, support and diversify local economies, help with community development, conserve wild spaces and wildlife, and help connect Canadians with their natural heritage (Johnson & Pinkerton, 2010; Rosset, 2010). Findings from this study suggest that residents of Tofino and Ucluelet perceive that PRNPR provides their communities with many of these benefits. It is critical that residents of communities adjacent to national parks, and Canadians in general, perceive they are receiving these benefits because if Parks Canada is unable to demonstrate how parks benefit Canadians the agency may experience reduced support for the creation and maintenance of the national parks system (Rosset, 2010).

This study also provides Parks Canada with detailed information regarding park visitation and usage by residents of local communities. While local users may only make up a fraction of the 800,000 visitors the park receives annually, they are likely the most frequent users of the area. Information regarding residents use of the park facilities and the activities they engage in while visiting the park may be useful in helping park management to develop a new zoning plan for the park as the old plan is outdated and there is little information on visitor usage of PRNPR (Parks Canada, 2010b). In addition, residents of Tofino and Ucluelet also attract other visitors to the area in the form of friends and relatives and can act as park ambassadors by providing information to tourists.

Furthermore, the results of this study provide Parks Canada with information regarding the success of community outreach activities. According to the PRNPR Management Plan (2010b) the park has "no data to assess the status and trend of outreach education" (p.25). The results of this study contain information on respondents' past involvement with PRNPR. This information could be used by Parks Canada to better understand how people have been involved with PRNPR in the past and target outreach activities accordingly.

5.4 Management Recommendations

Several management recommendations become evident based on the findings of this research. First, in order to compensate the residents of Tofino and Ucluelet for the concerns associated with living near PRNPR Parks Canada should consider reducing or removing park use fees for local residents. The results of this research indicate that the residents of Tofino and Ucluelet have taken issue with

having to pay to access the beaches, trails, and facilities located within PRNPR (see section 4.6). While conducting this research respondents frequently remarked that they felt they should not be subjected to park use fees. Respondents from both the focus group and questionnaire specifically mentioned they felt it was unfair they had to pay to access PRNPR as residents of other communities near national parks, such as Banff, were given free park passes. In addition, there was mention of one instance where a resident who had lived in the area prior to park establishment no longer visited the park after user fees were introduced in 1994.

If the park is concerned with improving its relationship with the surrounding communities Parks Canada may find it beneficial to provide residents of communities with either a reduced rate or free park pass. While providing residents with discounted or free park passes may reduce park revenues, it could help increase in visitation to the park from residents and their friends and family visiting from out of town. If PRNPR were able to increase visitation to the park in this manner it would also help move the organization closer to its goal of increasing visitation to national parks in general by 10% by 2015 (Parks Canada, 2010a).

Second, Parks Canada should place a greater emphasis on understanding how national parks negatively impact local communities. In key Parks Canada documents, such as the Parks Canada Corporate Plan (2010a) and the PRNPR Management Plan (2010b), it is acknowledged that national parks provide nearby communities with a range of economic, environmental, and social benefits at both a regional and national level. However, in the same documents scant attention is paid to the concerns associated with national parks.

The results of this research suggest that the residents of Tofino and Ucluelet perceive they are subject to a number of concerns as a result of living near PRNPR. While these are only perceived concerns they still represent the concerns of residents living adjacent to a national park. If these concerns are ignored or not acknowledged by park management relations with communities surrounding national parks may become worse over time (Kideghesho, Roskaft, & Kalterborn, 2006; Anthony, 2007). According to Parks Canada, "relationships with local and regional partners are critical to the long-term success of the park" (Parks Canada 2010b, p. 40). As a result, the concerns mentioned in this thesis should be addressed by Parks Canada to maintain a positive relationship with the adjacent communities of Tofino and Ucluelet.

Third, Parks Canada also needs to be able to better demonstrate how national parks benefit Canadians at a local level. Parks Canada literature suggests that national parks provide Canadians with a wide range benefits (e.g. Parks Canada, 2010a), yet there is little information on how national parks benefit communities at a local level. While this research describes perceptions in two communities near PRNPR little is know about the benefits received by other communities located adjacent to national parks in Canada. If Parks Canada is to be successful in presenting the full range of benefits from protected areas to Canadians the organization needs to focus more on benefits at a local level than at a national level. In doing so, the organization would be able to further their understanding of the benefits associated with national parks and subsequently modify the organization's

conservation actions and approaches to be more inline with the values, beliefs, and interests held by Canadians, which is critical for the organization (Rosset, 2010).

5.5 Limitations

While this study has produced a number of useful insights into the impact PRNPR has had on Tofino and Ucluelet, certain limitations need to be acknowledged. One of the main limitations of this research is the generalizability of the findings. While this study details the concerns and benefits experienced by residents of Tofino and Ucluelet they may vary significantly from one protected area to the next, despite similarities observed both in Canada and abroad.

It is also possible that the findings of this study may differ from other communities located near the park. PRNPR is unique as it is comprised of three distinct units, the Broken Group Islands, the Long Beach Unit, and the West Coast Trail Unit. Each of these units experience different forms of visitor use and visitation and, as a result, may affect the attitudes and perceptions of the communities surrounding each unit differently. In addition, there may also be difference in perceptions and attitudes towards PRNPR between those surveyed and local First Nations groups.

Another limitation of this study is that is does not focus on issues directly related to the management of PRNPR. Similar studies have also focused on perceptions of protected area managers and staff in an attempt to attribute perceptions and attitude to management actions or the protected area. If this information had been collected it is possible that it would have provided a better understanding of this projects findings.

It is also possible that the methodology used for this research did not produce a full list of concerns and benefits experienced by communities adjacent to PRNPR. By using a standardized survey the researcher may have limited the concerns and benefits to those found to be most prevalent in the literature and focus group discussions. In using a more qualitative approach to this research it is possible that the concerns and benefits discussed in this research would be somewhat different and more reflective of the issues between the communities and PRNPR.

5.6 Future Research

In discussing the contributions, recommendations, and limitations of this research a number of opportunities for future research related to this project can be identified. As this study focused on only the two largest communities surrounding PRNPR there is an opportunity to replicate this research in other communities adjacent to the park, including First Nations communities. In addition, comparative studies could be carried out in other communities surrounding provincial or national parks in Canada to determine the impact of protected areas across the country. There is also an opportunity to measure "actual" concerns and benefits received by the communities that surround PRNPR and compare them to the perceptions measured in this study.

5.7 Knowledge Mobilization Activities

This thesis contains a great deal of information with regards to how PRNPR is perceived by the adjacent communities of Tofino and Ucluelet. However, this information is not overly useful to end users in its current format. As a result, this

section discusses several ways of making this information more accessible to both the residents of Tofino and Ucluelet and Parks Canada.

In order to communicate the results of this thesis to residents of Tofino and Ucluelet in a clear and concise manner the researcher will prepare a brief one to two page summary of key findings regarding residents' attitudes and perceptions of concerns and benefits related to PRNPR. This summary will be distributed to the community members that participated in this research via e-mail and to the general public through an article in the local paper. In addition, both of these "research briefs" will contain information on how to access the full thesis through UVic Space if readers are interested in learning more about this research project.

A similar research summary will also be prepared for Parks Canada that will also include results related to the use of PRNPR by residents and community involvement with the park. This summary will be distributed with the help of the Protected Areas Poverty Reduction Research Alliance (PAPR) to management at PRNPR and Parks Canada employees in other parts of the country. Like the summaries sent to community members, the summary will provide the reader with details on how to retrieve this thesis in its entirety.

5.8 Chapter Summary

The information produced as a result of this thesis has led to an increased understanding of how PRNPR has impacted two adjacent communities, Tofino and Ucluelet. Major areas of focus in this study included (1) perceived benefits attributed to living near PRNPR, (2) perceived concerns attributed to living near PRNPR, (3) differences in perceived concerns and benefits between Tofino and

Ucluelet residents, (4) attitude towards PRNPR amongst residents of Tofino and Ucluelet, and (5) the impact PRNPR has had on livelihoods in the study sites.

Findings from this research address a significant research gap and contribute to an increased understanding of the relationship between protected areas and adjacent communities. This study focuses on the perceptions and attitudes of community residents living adjacent to a Canadian protected area, which few studies have done previously. In addition, the results of this study also provide Parks Canada with social science research that may contribute to improving the relationship between PRNPR management and the surrounding communities.

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Appendix A Focus Group/ Interview Questions

Q1. Do you think residents of Ucluelet value living near Pacific Rim National Park Reserve? Why or Why Not?

Q2. How do you perceive your community benefits from being located near Pacific Rim National Park Reserve?

Q3. How do you perceive your community incurs costs as a result of being located near Pacific Rim National Park Reserve?

Q4. Considering the costs and benefits mentioned by the group, do you think Uculelet is benefiting from being located near Pacific Rim National Park Reserve?

Q5. How do you perceive Pacific Rim National Park Reserve has influenced economic growth and employment opportunities in your community? In Clayoquot Sound?

Q6. Since you have lived in Ucluelet what are the most noticeable changes to the community, positive or negative, you have observed over time? Why do you think this has occurred?

Q7. Are you aware of instances where park management has engaged communities in the area to get input from community members on park issues that occur outside of park boundaries? (e.g. problems with wildlife damaging property or collaborating with communities to maximize tourism revenue)

Appendix B Focus Group Consent Form

The Perceived Impact of Protected Areas on Neighboring Communities

You are invited to participate in a study entitled the Perceived Impact of Protected Areas on Neighboring Communities that is being conducted by Adam Chafey.

Adam Chafey is a graduate student in the department of Geography at the University of Victoria and you may contact him if you have further questions by e-mail at [redacted] or by phone at [redacted].

As a graduate student, I am required to conduct research as part of the requirements for a Masters of Arts degree in Geography. It is being conducted under the supervision of Dr. Rick Rollins and Dr. Rosaline Canessa. You may contact Dr. Rick Rollins by e-mail at [redacted] or by phone at [redacted] and Dr. Rosaline Canessa by e-mail at [redacted] or by phone at [redacted].

Purpose and Objectives

<u>Purpose</u>

The purpose of this research is to examine how communities perceive they benefit, or incur costs, as a result of being located near a protected area. This study will be conducted in several communities on Vancouver Island located near Pacific Rim National Park.

<u>Objectives</u>

1) Identify the costs, such as displacement and restricted access to resources, and benefits, such as tourism and ecosystem services, experienced by communities located near Pacific Rim National Park.

2) Identify important livelihood activities for each community and how these activities have been enhanced or restricted by Pacific Rim National Park.

3) Gain an understanding of how residents from each community perceive Pacific Rim National Park and the way in which it has changed their communities and livelihoods.

4) Examine the distribution of costs and benefits across the communities located near the park and identify factors that allow for differences in distribution to occur.

5) Characterize the way in which the costs and benefits identified by communities have increased or decreased wellbeing in each community.

Participation

There are no known or anticipated risks to you by participating in this research. Your participation in this research consists of your participation in a focus group that will take between **60 to 120 minutes** to complete. Your participation in this study is greatly appreciated.

Your participation in this research is completely voluntary. If you do decide to participate, you may withdraw at any time without any explanation. If you do withdraw from the study

your contributions will be removed from any transcripts or materials produced as a result of this study.

Anonymity and Confidentiality

By participating in focus groups as part of this research project it will not be possible to guarantee participants complete confidentiality. However measures will be taken to minimize disclosure outside of the research team and other focus group participants. The principal investigator and members of the research team involved in organizing focus groups will not share information regarding the participants names, contact information, or information discussed by focus group participants. Furthermore, if names are to be used in materials produced as a result of this project, including focus group transcriptions, pseudonyms will be used to protect the identity of participants.

Data Protection and Storage

All data will be stored in a secured area throughout and after the completion of the research project. All focus group materials will be stored in a locked lab in the Social Sciences and Math (SSM) building at UVic inside a locked filing cabinet. All electronic data will be kept on a password protected computer. Any copies of the data mentioned above will be stored on password protected CD's or a protected external storage device. No names or other identifying information will ever be disclosed.

Printed and written information such as focus group transcripts will be kept for three years from the date of this focus group. All electronic data will be stored for five years from the date of this focus group for use in the researchers masters thesis and possible future use by the Protected Areas and Poverty Reduction Canada-Africa Research and Learning Alliance (PAPR). After three years all paper materials will be shredded and after 5 years all electronic data will be deleted.

Dissemination of Results

Results from this study will be published in journals, presented at scholarly meetings, form part of a master thesis, and be published online. If you are interested in receiving a summary of the research findings, which are expected to be produced by winter/spring of 2011, please contact Adam Chafey by e-mail at [redacted] or provide the researcher with your e-mail address. Please note that the results of this study are not expected to be available until 2011.

Contact Information

If you have any further questions about this study, please feel free to contact Adam Chafey at [redacted] or [redacted]. In addition, you may verify the ethical approval of this study, or raise any concerns you might have, by contacting the Human Research Ethics Office at the University of Victoria.

Your signature below indicates that you understand the above conditions of participation in this study and that you have had the opportunity to have your questions answered by the researcher. Thank you for your time.

_____

Name of Participant *Signature* *Date*

Appendix C Questionnaire

Community Opinions About Living Near Pacific Rim National Park Reserve

Fall 2010

University of Victoria

VANCOUVER ISLAND UNIVERSITY

conservation knowledge

Protected Areas and Poverty Reduction

Canada-Africa Research and Learning Alliance

Your Use of Pacific Rim National Park Reserve

Q1. About how many times have you visit the Long Beach Unit of Pacific Rim National Park Reserve in the past twelve months (Please circle number)?

1 NOT AT ALL
2 1 TO 5 TIMES
3 6 TO 10 TIMES
4 11 TO 15 TIMES
5 MORE THAN 15 TIMES

Q2. Which areas of the Long Beach Unit of Pacific Rim National Park Reserve have you visited in the past twelve months (Please circle all that apply)?

1 LONG BEACH
2 INCINERATOR ROCK
3 WICKANINNISH BEACH
4 COMBERS BEACH
5 WILLOWBRAE TRAIL
6 HALFMOON BAY TRAIL
7 SOUTH BEACH TRAIL
8 NUU-CHAH-NULTH TRAIL
9 SHOREPINE BOG TRAIL
10 RAINFOREST TRAIL
11 SCHOONER COVE TRAIL
12 RADAR HILL
13 OTHER

Q3. What activities did you participate in while visiting the Long Beach Unit of Pacific Rim National Park Reserve (Please circle all that apply)?

1 WILDLIFE VIEWING
2 FISHING
3 BOATING (E.G., SAILING, POWERBOATING)
4 PADDLING (E.G, CANOEING, KAYAKING)
5 SURFING
6 WALKING/HIKING
7 CYCLING
8 CAMPING
9 NATURE PHOTOGRAPHY
10 INTERPRETIVE ACTIVITIES (E.G. NATURE WALK WITH A PARKS CANADA INTERPRETER)
11 OTHER (please specify) _____.

Possible Community Benefits

Q4. Listed below are a number of possible benefits that <u>can</u> be provided to communities located near parks such as Pacific Rim National Park Reserve. Please indicate the extent to which you agree or disagree with the following.

The Park Has …	**STRONGLY DISAGRE**	**SOMEWHAT DISAGREE**	**NOT SURE**	**SOMEWHAT AGREE**	**STRONGLY AGREE**
A. increased employment opportunities in the area	1	2	3	4	5
B. increased visitation and overnight stays in the community	1	2	3	4	5
C. provided more business opportunities within the community					
D. provided an increase in local tax revenues through tourism	1	2	3	4	5
E. resulted in improved community infrastructure (e.g. roads, health care facilities)	1	2	3	4	5
F. increased recreational activities for community residents	1	2	3	4	5
G. helps to maintain the cultural identity of the community	1	2	3	4	5
H. increased conservation awareness in the community	1	2	3	4	5
I. helped to protect biodiversity (e.g. plants and animals)	1	2	3	4	5
J. helped provide ecosystem services (e.g. clean air and water)	1	2	3	4	5
K. preserved public access to some beaches and natural areas	1	2	3	4	5
L. The park preserves local landscapes	1	2	3	4	5
M. provided spiritual benefits	1	2	3	4	4
N. other (please specify) _____					

Q5. From the benefits listed above in Q4. please indicate which ones are the most important to you. Place the appropriate letters from Q4. in the spaces provided below, in order of importance.

(1) ____ MOST IMPORTANT. (2) ____ SECOND MOST IMPORTANT. (3) ____ THIRD MOST IMPORTANT.

Possible Community Concerns

Q6. Listed below are a number of possible concerns that <u>can</u> arise in communities located near parks such as Pacific Rim National Park Reserve. Please indicate the extent to which you agree or disagree with the following.

	STRONGLY DISAGRE	SOMEWHAT DISAGREE	NOT SURE	SOMEWHAT AGREE	STRONGLY AGREE
A. The increase in park visitors has contributed to inflated property values	1	2	3	4	5
B. The increase in park visitors has contributed to inflated prices for goods and services	1	2	3	4	5
C. The park entrance fee has reduced my use of the park	1	2	3	4	5
D. The community seems crowded due to the number of park visitors	1	2	3	4	5
E. The park has contributed to wildlife problems in the community (e.g. bears, cougars, wolves)	1	2	3	4	5
F. To cater to park visitors the land surrounding the park has been degraded	1	2	3	4	5
G. Tourism related to the park has negatively affected the local job market	1	2	3	4	5
H. Visitors to the park are causing the overuse of natural resources in the community (e.g. water)	1	2	3	4	5
I. Visitors to the park are causing the overuse of social services in my community (e.g. medical services, police services)	1	2	3	4	5
J. The park has contributed to an increase in non-resident ownership of businesses	1	2	3	4	5
K. The park has contributed to an increase in non-resident ownership of property	1	2	3	4	5
L. The park has placed restrictions on the types of activities allowed within its borders (e.g. restrictions on development)	1	2	3	4	5
M. Because of park rules and visitor actions my support for the park has decreased	1	2	3	4	4
N. other (please specify) _____					

Possible Community Concerns (Continued)

Q7. From the concerns listed above in Q6. please indicate which ones are the most important to you. Place the appropriate letters from Q6. in the spaces provided below, in order of importance.

MOST IMPORTANT ____.
SECOND MOST IMPORTANT____.
THIRD MOST IMPORTANT ____.

Q8. Considering the concerns and benefits mentioned in Q8. And Q10., how do you feel about living near Pacific Rim National Park Reserve?

1 THE CONCERNS STRONGLY OUTWEIGH THE BENEFITS

2 THE CONCERNS SOMEWHAT OUTWEIGH THE BENEFITS

3 THE CONCERNS ARE EQUAL TO THE BENEFITS

4 THE BENEFITS SOMEWHAT OUTWEIGH THE CONCERNS

5 THE BENEFITS STRONGLY OUTWEIGH THE CONCERNS

6 NOT SURE

About Your Community

Q9. Based on your experience living in this area how would you rate following?

	MUCH WORSE	SOMEWHAT WORSE	NOT SURE	SOMEWHAT BETTER	MUCH BETTER
A. Access to natural resources (e.g. timber, fish)	1	2	3	4	5
B. Access to community social networks	1	2	3	4	5
C. Ability to become a member of community special interest club/group	1	2	3	4	5
D. Access to workplace training	1	2	3	4	5
E. Access to professional development courses	1	2	3	4	5
F. Access to adequate health care	1	2	3	4	5
G. Access to outdoor recreation facilities	1	2	3	4	5
H. Access to indoor recreation activities	1	2	3	4	5
I. Access to affordable housing	1	2	3	4	5
J. Access to affordable land	1	2	3	4	5
K. Access to affordable goods and services	1	2	3	4	5
L. Access to employment opportunities	1	2	3	4	5
M. Access to surrounding communities (via some form of transportation)	1	2	3	4	5
N. Access to higher levels of education	1	2	3	4	5

The Park and Your Community

Q10. How do you think the park has influenced access to the following in your community?

	MUCH WORSE	SOMEWHAT WORSE	NOT SURE	SOMEWHAT BETTER	MUCH BETTER
A. Access to natural resources (e.g. timber, fish)	1	2	3	4	5
B. Access to community social networks	1	2	3	4	5
C. Ability to become a member of community special interest club/group	1	2	3	4	5
D. Access to workplace training	1	2	3	4	5
E. Access to professional development courses	1	2	3	4	5
F. Access to adequate health care	1	2	3	4	5
G. Access to outdoor recreation facilities	1	2	3	4	5
H. Access to indoor recreation activities	1	2	3	4	5
I. Access to affordable housing	1	2	3	4	5
J. Access to affordable land	1	2	3	4	5
K. Access to affordable goods and services	1	2	3	4	5
L. Access to employment opportunities	1	2	3	4	5
M. Access to surrounding communities (via some form of transportation)	1	2	3	4	5
N. Access to higher levels of education	1	2	3	4	5

A Little About You

Q11. Have you been involved with Pacific Rim National Park Reserve in any of the following ways (Please circle all that apply)?

1 READ A NEWSPAPER OR MAGAZINE ARTICLE ABOUT THE PARK
2 READ A PARK NEWS LETTER OR OTHER PARK PUBLICATION
3 LISTENED TO A RADIO PROGRAM ABOUT THE PARK
4 WATCHED A TV SHOW OR FILM ABOUT THE PARK
5 VISITED A PARK RELATED WEBSITE
6 ATTENDED A PUBLIC MEETING ABOUT THE PARK
7 BELONGED TO AN ORGANIZATION OR COMMITTEE RELATED TO THE PARK
8 EMPLOYED BY THE PARK
9 NOT AT ALL INVOLVED / INTERESTED

Q12. In which of the following communities do you currently live?

1 TOFINO

2 UCLUELET

3 OTHER (please specify) _____

Q13. About how many years have you lived in this area (for at least part of the year)?

_____ YEARS

Q14. About how many months of the year do you usually live in this area?

_____ MONTHS

Q15. What is your age (Please circle the appropriate number below)?

1 18-24 YEARS OLD

2 25-34 YEARS OLD

3 35-44 YEARS OLD

4 45-54 YEARS OLD

5 55-64 YEARS OLD

6 OVER 65 YEARS OLD

A Little About You (Continued)

Q16. Are you …

1 MALE

2 FEMALE

Q17. What is your current job? (please specify)

_____

Q18. To what extent is your current job related to tourism?

1 NOT AT ALL RELATED TO TOURISM

2 SOMEWHAT RELATED TO TOURISM

3 HIGHLY RELATED TO TOURISM

Q19. To what extent is your current job related to Pacific Rim National Park Reserve?

1 NOT AT ALL RELATED TO THE PARK

2 SOMEWHAT RELATED TO THE PARK

3 HIGHLY RELATED TO THE PARK

Q20. Which of the following best describes your household income in 2009?

1 LESS THAN $20,000

2 $20, 000 - $39, 999

3 $40,000 - $59,999

4 $60,000 - $79,999

5 $80,000 OR MORE

Q21. Do you have any other comments or suggestions you would like to make about living near Pacific Rim National Park Reserve?