

**Assessing Stakeholder Interests:  
A strategy for best management practices of free-roaming horses,  
Chilcotin, British Columbia**

By  
Katherine Card, B.A.

A thesis submitted to the Faculty of Graduate Studies.  
In Partial Fulfillment of the Requirements  
For the Degree of

**Master of Natural Resource Management**

Clayton H. Riddell Faculty of Environment Earth and Resources  
Natural Resource Institute  
University of Manitoba  
Canada R3T 2N2

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## **Abstract**

The purpose of this research was to assess stakeholder interest pertaining to best management practices for free-roaming horses in the Chilcotin, British Columbia. The study site is located between the towns of Hanceville to the east and Tatla Lake to the west. A case study approach was adopted, utilizing on-site observation, document analysis and semi structured interview methods. Analysis, through the reduction and interpretation of data, allowed for the emergence of the themes and subthemes. Themes were free-roaming horse interaction with both the biophysical and socioeconomic landscape as well as management.

British Columbia government, ranchers, First Nations and Non Governmental Organizations were interviewed on their awareness and interaction with free-roaming horses, the management and policies pertaining to the species. Free-roaming horses have historically represented a social and economic resource, although stakeholders have had little input into management decisions. Antiquated policies, clashing social values, changing land title and land use and difficult economic times have resulted in a lack of clarity regarding jurisdiction, and therefore management, for the free-roaming horses. Management goals are not clear due to lack of classification as livestock or wildlife under provincial or federal legislations.

A strategy, which promotes decentralization, collaboration and transparency in decision and policy-making is recommended. Multi-stakeholder research is the first step toward creating such a strategy.

## **Acknowledgements**

This thesis would not have been possible without the help and support of a number of individuals and organizations. First, I would like to thank the research participants. You welcomed me into your homes and greeted me with respect and cooperation. This thesis is truly a testament to your participation and knowledge. Chief Joe Alphonse, Chief Ervin Charleyboy and Chief Ivor Myers, thank you for taking time out of your busy schedules to show me around your country. Horseback is truly the only way to experience the Chilcotin. The BC Forest Service, in particular the staff at the Alexis Creek District office, thank you for providing me with logistical assistance and a place to escape the elements.

The financial, logistical and emotional support provided by FONV, Valhalla Wilderness Society and Maureen and Jerry Tickner, I will never forget all that you did for me and this research. Thank you to Prof. Thomas Henley, my thesis supervisor, for your support and drive. Thank you also to my committee, Dr. Micheline Manseau and Dr. Mary Benbow. Jonaki Bhattacharyya your help and humour got me through not only the field season but also the months of writing. I am not sure I could have done it without you. Finally I would like to thank my family and friends, even though you don't really know what I'm doing half the time, it matters that you care and always provide a place to come back to whenever I need a break.

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## CHAPTER ONE: INTRODUCTION

### Context

This thesis set out to assess stakeholder interests, and to develop a strategy for best management practices for free-roaming horse (*Equus caballus*) bands in the Chilcotin, British Columbia (B.C.) (Figure 1.1).

Current literature on free-roaming horse management uses the terms free-roaming, feral and wild interchangeably. Horse origins are a debated and often contested topic within the region, making terminology extremely important. In order to remain unbiased, the term free-roaming will be used to describe the horses within the study area. Free-roaming describes the horses as they are at present and does not imply any knowledge of origins.

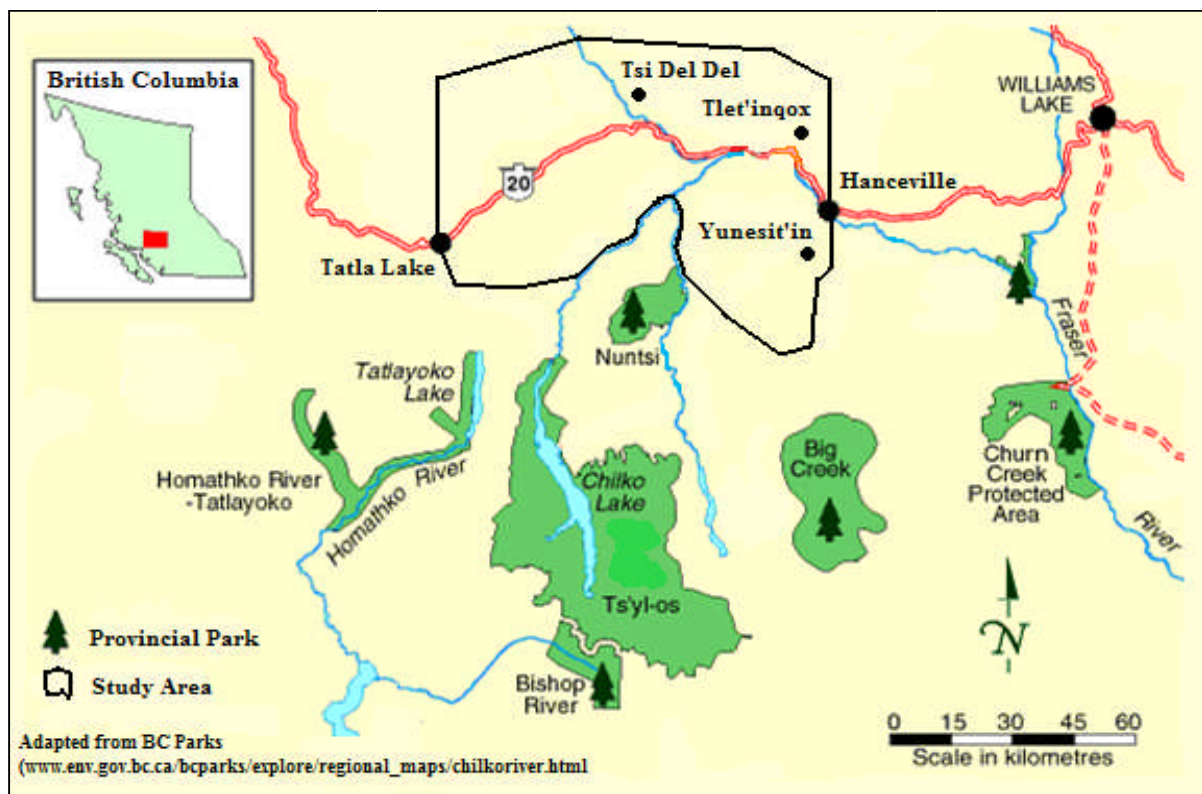


Figure 1.1: Map of study area, Chilcotin B.C., between Hanceville and Tatla Lake.

The study site was located in the Chilcotin Region, B.C. between the cities of Hanceville to the east and Tatla Lake to the west, approximately 350km north-northeast of Vancouver (Figure 1.1). Referred to as the Cariboo Chilcotin Coast the region is characterized by mountains surrounding high plateaus, a phenomenon that results in winter snows and warm dry summers. The economy of the region is based on forestry, mining, agriculture and tourism. The economy of the study site in particular is reliant upon cattle ranching (British Columbia: Cariboo Region, 2009). The population of the study site is estimated at 1,400, including First Nations reserves, occupying approximately 150km<sup>2</sup> (Tsilhqot'in National Government, 2009; BC Stats, 2006; British Columbia Tourism Travel Guide, 2009).

Free-roaming horses (Figure 1.2) are located in numerous locations in Canada including Alberta, Saskatchewan, and Sable Island off the coast of Nova Scotia. Of these areas, Sable Island ponies are protected under federal government legislation and Saskatchewan's Bronson Forest wild ponies are protected under provincial legislation (The Protection of the Wild Ponies of the Bronson Forest Act, 2009; Sable Island Preservation Trust, 2004). As of March 2010 there was no legislation or policy plan in place for managing free-roaming horses in the Chilcotin. Historical management occurred unofficially through the B.C. Grazing Act under the Ministry of Forests and Range (McCrary, 2002; FONV, 2008). Provincial legislation within B.C. considers free-roaming horse bands as non-native and feral, which the provincial government cites as the main reason why the horses are not recognized as a species under the B.C. Wildlife Act (British Columbia Wildlife Act, 1996).



**Figure 1.2: Free-roaming horses in the Brittany Triangle.**

Four main stakeholder groups are involved: the B.C. government, the Tsilqot'in National Government (TNG) represented in the study area by Tlet'incox (Anaham), Yunesit'in (Stone) and Tsi Del Del (Redstone) First Nations, the NGOs and the ranchers who graze cattle within the Chilcotin. Ranchers within the region could be considered an NGO. As a collective, ranchers have not united on a policy statement regarding free-roaming horses and have not self-identified as an NGO. For these reasons ranchers will be treated, within this study, as a stakeholder group separate from the NGOs. According to Dearden and Mitchell (2005) any public agency with management responsibilities and all parties who may have a role in the decision-making process, whether through the act of facilitating, blocking or delaying it, should be included as a stakeholder. For this reason and for the sake of simplicity the B.C. government is considered a stakeholder within this study.

The Nemaiah Valley and Brittany Triangle are the traditional territory of the Xeni Gwet'in, another community within the TNG. Located approximately 60km south of the study site the ?Elesgesi Qayus Wild Horse Preserve (2002) (Figure 1.3) was created by the Xeni Gwet'in as a response to logging plans in the area. Since the early 1980s, the Xeni Gwet'in have been involved in extensive land and legal claims. Jurisdiction of the species and the land on which they exist is unclear and therefore land claims are contributing to a management stalemate for free-roaming horses of the region. The Xeni Gwet'in identifies the horses as having both historical and cultural significance. The Xeni Gwet'in are vocal in their sentiments toward horse protection (McCroory, 2002). Regardless of proximity, the study site and the Nemaiah/Brittany Triangle are separate areas with different socioeconomic and biophysical landscapes; they should be assessed as such.



**Figure 1.3: Wild Horse Preserve in the Nemaiah Valley**

Little is known regarding the interests of ranchers, although sentiments are often assumed to be negative and therefore used as reasoning for the horses not being recognized under the Canada or B.C. Wildlife Act (Canada Wildlife Act, 1985; British Columbia Wildlife Act, 1996). Recurring bounty programs, offering a reward per pair of ears collected, have not helped to curb the negative assessment. Although formally abolished in the late 1960s, certain sanctions have been revisited as recently as ten years ago (McCrary, 2002).

### **Problem Statement**

Changing biophysical and socioeconomic landscapes has led to increased tension between stakeholder groups regarding management of the free roaming horses. Tension has contributed to a stalemate in terms of management goals, strategies, practices and classification under government policy. Lack of clear management goals for free-roaming horses in the Chilcotin, has resulted in an antiquated policy that does not represent current societal values.

Free-roaming horse bands represent a highly mobile species, moving easily across public and private land. Generalizations regarding stakeholder interests have been made, although no formal studies have been found. Generalizations regarding stakeholder values and horse origins are often cited as reasoning behind a lack of unified management for the horses (McCrary, 2002). Stakeholder interests must be considered in the development of a strategy for best management practices of free-roaming horses. Collaboration amongst all stakeholders is necessary in order to facilitate open and participatory management (Dearden and Mitchell, 2005). There is currently a lack of communication between and among stakeholders concerning a strategy for best management practices of free-roaming horses in the Chilcotin.

## **Objectives**

The research purpose is to assess stakeholder interests in order to create a strategy for best management practices of free-roaming horses in the Chilcotin, British Columbia. Four objectives will be met:

1. to define the issue, including past and present geographic location of the free-roaming horses
2. to identify stakeholder interest pertaining to free-roaming horse management
3. to assess historical and current, federal and provincial policy, related to free-roaming horse management in B.C., and
4. to recommend a strategy for best management practices.

## **Rationale**

Many issues are currently contributing to the rationale of a best management practices study pertaining to the free-roaming horses in the Chilcotin. Issues include persistent interest generalizations, changing biophysical and socioeconomic landscapes and insufficient communication between stakeholders. Research and policy has historically used ranchers to justify management goals and strategies, although no formal studies have been undertaken regarding stakeholder interests. Policy makers often cite stakeholder interests when making management decisions, when in reality stakeholder interests are often varied depending on a range of variables which must be considered when making management decisions (Ludwig, 2001).

Cattle ranching is the primary economic industry in the region (Hayes, 2007), but is not the primary economic industry within the First Nations communities. Changing socioeconomic

factors have resulted in increased pressure on ranchers and the range. Horses are highly important to First Nations culture in the region. Anaham, Redstone and Stone First Nations have, and continue to practice a horse culture. Changing biophysical and socioeconomic factors, highlighted by the TNG rights and title case, have resulted in a management stalemate due to unclear jurisdiction.

### **Research Design**

Research employed a qualitative paradigm using a single-case study approach, as described by Yin (2003). On-site observation, document analysis and semi structured interviews were utilized in order to assess stakeholder interests pertaining to the management of free-roaming horses. Field research took place between early May 2009 and late August 2009. Stakeholders were identified through a list compiled in collaboration with NGOs and local government officials. The list was used to inform primary identification. Subsequent interviews were identified by those on the primary list, resulting in a stakeholder based identification procedure. Participants were asked to comment on background, awareness/interaction, management and policy.

Data analysis took place through transcription and coding of the interview tapes and field notes. NVivo 8 was used to code and assist with the identification of themes, which fed directly into the results, forming a thesis outlining stakeholder interests pertaining to a strategy for best management practices of free-roaming horses in the Chilcotin. The document analysis focused on policy documents regarding historical and current wildlife management in B.C. Environmental sociology was utilized as a disciplinary framework within which the results were analysed. Environmental sociology is described as a “specific category of inquiry focusing on the

way in which factors in the physical environment shape and are shaped by social organization and social behaviour” (Buttel, 1987, p.468).

The study is organized into six distinct chapters. Chapter One is an introduction, including context, objectives and justification. Chapter Two presents current and relevant literature, examined in order to explore the study area and the issue. Research methodology is presented in Chapter Three, followed by a presentation of results and implications for management, which addresses the recommended management strategy. Chapter Six contains a summary, conclusions and recommendations based on the objectives set out in Chapter One. Stakeholder interests pertaining to past, present and future best management practices are assessed in order to create a strategy for best management practices.



## **CHAPTER TWO: LITERATURE**

Free-roaming horse management exists at the interface between numerous disciplines including range and wildlife management, ecology, natural resource and environmental policy and sociology. Unlike the management of other mammals, free-roaming horses “occupy a unique political status among large mammals of North America” (Beever, 2003, p.892) due to the fact that they are considered neither wild or domestic. Existing literature pertinent to understanding best management practices for free-roaming horse bands in the Chilcotin, B.C., will be examined. An examination of literature pertaining to free-roaming horse management and stakeholder interest studies will be outlined, including information surrounding historical free-roaming horse management on an international, national and provincial scale. A detailed account of the histories of First Nation and ranchers in the area will conclude the chapter.

Literature pertaining to stakeholder interests for the management of free-roaming horses can be situated into three main categories. These are interaction with biophysical landscape, free-roaming horse management and stakeholder interest. Interaction studies focus on free-roaming horse interaction with the ecosystem, including flora and fauna. Free-roaming horse management studies are often focused on existing policy implications. Stakeholder interest studies are most often conducted to assess values related to free-roaming horses. The chapter will be categorized based on interaction with the biophysical landscape, free-roaming horse management and stakeholder interest, with each section framing the existing literature within the context of this research project.

## **Interaction with the Biophysical Landscape**

The body of literature surrounding horse interactions with the biophysical landscape is broad and diverse. Studies take the form of mixed grazing studies, most commonly examining horse and cattle grazing, and studies examining the effect of horses on the surrounding environments.

Mixed grazing studies, involving both cattle and horses, are important because in most cases horses are not the sole user of the range. The lands, or range, horses occupy are commonly also occupied by other range users such as native wildlife and livestock. Mixed grazing studies have predominately focused on European pastures, grasslands and wetlands, where in the example of the Netherlands free-ranging cattle and horses are commonly used as a nature management practice (Kuiters and Slim, 2003). These studies generally utilize an experimental methodology (Menard et al., 2002; Loucougaray et al., 2004; Kuiters and Slim, 2003) in order to quantify the effect of combined grazing on the natural landscape.

Literature indicates that horses and cattle have different use patterns due to their unique digestive tracts and that they use different plant species even if these species are located in the same area (Menard et al., 2002). According to Loucougaray et al. (2004) “In order to maximize biodiversity in ‘community interest’ grasslands, the control of competitive grass species together with the opening of gaps appears essential” (p.70). Loucougaray et al. (2004) go on to state that in the short-term horses could suffice, but in the long-term cattle would help to compensate in areas where horses are not sufficient. Research suggests that mixed grazing could be used in conservation in order to manage plant heterogeneity and diversity. Mixed grazing “with both cattle and horses, constitute the best management regime in these grassland ecosystems” (Loucougaray et al., 2004, p.71).

Interaction studies between free-roaming horses and native wildlife are limited. Ostermann-Kelm et al. (2008) through the University of California's Wildlife Health Centre studied the temporal and spatial overlap between feral horses and native bighorn sheep (*Ovis Canadensis*) pertaining specifically to watering sites. Like most other quantitative feral horse studies, this research utilized an experimental design. According to Ostermann-Kelm et al. (2008), there was no evidence of direct competition, although there was overlap and some evidence that "the presence of horses has the potential to negatively impact bighorn sheep causing them to avoid watering sites during hot summer months" (Ostermann-Kelm et al., 2008, p 464). The study by Ostermann-Kelm et al. (2008) was the first ever manipulative field study specifically designed to test the interactions between native ungulates and feral horses (Ostermann-Kelm et al., 2008).

The effect of feral horses on soil and ants was explored by Beever and Herrick (2006). They found that sites in the Great Basin mountain range, which are occupied by feral horses, have increased soil compaction and decreased abundance of ant mounds, concluding that feral horses need to be considered in conservation and ecosystem planning. The authors identified two sites, one occupied by horses and one not, in order to compare quantitative indicators such as surface permeability, density of ant mounds and vegetation cover. Previous studies have focused on direct effects of grazing on soil-plant-animal feedbacks with modest quantitative research on indirect feedbacks and even less on how these feedbacks can be considered in planning (Beever and Herrick, 2006).

Mixed grazing and impact studies depend greatly on the climate and specific land use patterns present in the particular area addressed. One such study indicated that:

While the diet of feral horses may be more varied than cattle's, the two are not mutually exclusive. In some areas, they may overlap with seasonal variations from

62% to 78% and with the diets of both animals containing 88% grasses. As horses are more opportunistic in their dietary habits than cattle they are more likely to browse competitively with other ungulates during food scarcity. Thus, while they may not substantially compete with moose or pronghorn in times of abundance, they may be more likely to do so in times of scarcity. (Hayes, 2007, p.6)

Findings are consistent with other mixed grazing studies, which tend to indicate that although there is overlap, competition is a concern only when resources are scarce (Hayes, 2007).

Studies pertaining to the effect of horse grazing, or more commonly large ungulates, on forest regeneration are also present within the existing literature. In his paper examining the effect of ungulates on temperate forest ecosystems, R.J. Putman (1996) states that, “where densities of large ungulates reach a sufficient level in semi-natural or managed woodlands they may indeed have a marked impact on their vegetation environment.” (p. 206). Research discusses the impacts ungulates can have on tree regeneration, suggesting in most cases that grazing, trampling and rooting opens up grasslands and decreases the establishment of certain types of woody species (Kuiters and Slim, 2003; Putman, 1996).

Literature frequently assesses the effect horses are having on the ecosystem but does not fully assess the impact ecosystem changes are having on horse populations. The literature base surrounding the effects of landscape changes, especially fragmentation caused by logging, on free-roaming horse bands is small. There is literature pertaining to other mammals (Andren, 1994) and ungulates such as caribou (Smith et al., 2000) which indicates that there are short-term effects on movement and distribution. Debinski and Holt (2000) performed a literature review on the effects of fragmentation on species richness and abundance. When examining highly mobile taxa, such as mammals, Debinski and Holt concluded that:

One of the more consistently supported hypotheses was that movement and species richness are positively affected by corridors and connectivity, respectively. Transient

effects dominated many systems; for example, crowding of individuals on fragments commonly was observed after fragmentation, followed by a relaxation toward lower abundance in subsequent years (p342).

Literature indicates that more research should be conducted into the long term effects of habitat changes, focusing on predator interactions and fragmentation (Debinski and Holt, 2000). Grazing habitat preference differs greatly between free-roaming horses and other large mobile ungulates, therefore, although useful, these results are not directly transferable.

The body of literature pertaining to interactions between free-roaming horses and the biophysical landscape predominately pertains to ecosystems that are not directly comparable to those in the Chilcotin. For the most part, these studies focus on domesticated cattle and horses on domesticated landscapes in Europe (Menard et al., 2002; Loucougaray et al., 2004; Kuiters and Slim, 2003). There is a fair amount of literature generated in the United States during the 1970s and 80s, the first fifteen years after horses were protected there. The dietary overlap of horses and other ungulates pertaining to feral horses is discussed, but literature is mainly focused on semi arid and arid ecosystems. To date, studies pertaining to the biophysical interactions of free-roaming horses and the landscape within the Chilcotin have not been identified.

### **Free-roaming Horse Management**

Wildlife management is defined by Czech (2000), as the act of “managing animals, habitats, and the activities of people” (p.5). Wildlife management takes two primary forms: manipulative and custodial. Manipulative management changes the population and is prescribed when a population becomes too low or too high, within the context of the management goal. Manipulative management utilizes numerous strategies and tools including directly increasing or decreasing population numbers, or indirectly altering food supplies, predator densities or habitat.

Custodial management aims to minimize external effects on an ecosystem and predominately is practiced when the goal of management is protection or prevention (Caughley and Sinclair, 1994). According to Sinclair et al., (2006) three decisions are needed before wildlife can be managed, “ what is the desired goal; which management option is therefore appropriate; and by what action is the management option best achieved” (p.3). The first decision is a value decision while the other two are technical decisions. In terms of management options, Sinclair et al., (2006) offers four alternatives: increase the population, decrease the population, achieve a continuing yield through population harvesting or leave the population and monitor. Within this research, the term management strategy is used instead of management action.

Free-roaming horse management is an international, national, provincial and regional issue. The widespread historical use of horses and the role horses played in both industrialization and mechanization has resulted in free-roaming horses being present throughout the world (Hayes, 2007). Free-roaming horse management is an issue faced daily by local community members, governments and advocacy groups worldwide. Since no two landscapes are socioeconomically or biophysically alike, issues are examined based on specific characteristics, although the examination of management goals, strategies and practices from other areas can provide key insights.

Free-roaming horse management studies primarily focus on cases within the United States (Beever, 2003) and Australia (Nimmo et al., 2007; Symanski, 1994) with some studies in Europe (Vega-Pla et al., 2006) and New Zealand (Linklater et al., 2002). Within the United States (US) free-roaming horses and burros have been protected under federal law since 1971. Managed by the Bureau of Land Management (BLM) the horse program present in the US has employed numerous management techniques including roundup, adoption and contraception

campaigns (Garrott et al., 1992). Research performed through the BLM is abundant, with studies frequently focusing on population management, specifically overabundance and how to manage fertility in free-roaming horses and burros (Garrott and Vanderbilt White, 1993). Population studies occur within specific climates where unique land use patterns are present, decreasing the relevance across varying biophysical and socioeconomic landscapes.

Studies within the US have also examined other aspects of free-roaming horse management, although these are limited and focus on semi arid or arid climates. Erik Beever (2003) in his paper *Management Implications of the Ecology of Free-Roaming Horses in Semi Arid Ecosystems of the Western United States*, highlights the uniqueness of free-roaming horses among large western North American herbivores. Beever's purpose was "to explore ways in which their differences from other ungulates may translate onto managed landscapes" (p. 893). Horses in western North America are managed on areas totalling 18.6 million ha although there is little known about how ecosystems and components have responded to the presence of free-roaming horses. Free-roaming horse management in the US is illustrated through a quote from Beever (2003) stating:

Free-roaming horses are not managed as wild or as domestic animals; they currently occupy a unique political status among large mammals of North America. Although cattle and free-roaming horses are of similar size, cattle generally are managed more intensively than are horses. In contrast, horses by law must be managed under a 'minimal management strategy'. For example, other than during periodic removals, many free-roaming herds of horses are not fenced. In contrast to other wild ungulates, however, hunting of horses is not permitted...These policies constrain possible management strategies and mean that distribution of horse grazing across semi arid landscapes will diverge greatly from cattle distribution. (p.892)

Literature surrounding feral horse populations in Australia tends to be more socioeconomic in nature than biophysical. Although biophysical research is available, Australian research tends

to focus more on the differences of opinion present between stakeholder groups regarding the management of feral horses (Symanski, 1994). Australia has the largest population of feral horses in the world, with some estimates being as high as 400,000 (Nimmo et al., 2007). As with the Chilcotin, stakeholder interest is divided regarding management goals, strategies and practices (Nimmo et al., 2007; Symanski, 1994). A consistent viewpoint present within Australian research is that public awareness needs to be addressed in order to reduce the amount of political controversy associated with management options. Nimmo et al. (2007) suggest further research into the ecological effects of free-roaming horses.

Wayne Linklater et al. (2002), in a study on the political debate surrounding feral horse ecology and behaviour in New Zealand, comments on the socioeconomic aspects of free-roaming horse management:

Feral horse management problems are largely political, economic and cultural, not biological. Consequently, biologists are often employed to address questions peripheral to the debate. Politicians, managers, and the public demand quick answers, yet the progress of wildlife research is slow...Feral horse research is expensive and may be of limited value in addressing the political issues of animal welfare and rangeland conservation...Feral horse management primarily requires resolving political, economic, and cultural issues, not scientific ones. (p.644)

Canadian free-roaming horse management studies are rare but not non-existent, with most focusing on either the Sable Island ponies (Plante et al., 2007) or mixed grazing in western Canada (Salter and Hudson, 1978b). In November 2009 Saskatchewan's Tim McMillan, Member of Legislative Assembly (MLA), introduced The Protection of the Wild Ponies of Bronson Forest Act as a private members bill. The bill was developed on behalf of the ponies of Bronson Forest and stakeholders, which include local ranchers and residents as well as interested individuals from outside of the area, mainly equine enthusiasts. Utilizing various mediums



including social networking in order to raise awareness of the issue, the bill was passed on November 26, 2009 and was assented into law on December 3, 2009. Making it, the first act in Canada specifically designed to protect free-roaming or wild horses.

In March 2007, E.W. Ted Hayes was contracted to prepare a document entitled *A Brief Examination of History, Policy and Practice in the Management of Feral Horses with particular reference to the Chilcotin Plateau*. This assessment, provided by the district Forest Service office in Alexis Creek, B.C., discusses the history, ecological and socioeconomic considerations of horses in this region. The paper also comments on American and Canadian policy and practice. In 1978, R.E. Salter and R.J. Hudson published a paper in the *Rangeman's Journal* entitled *Distribution and Management of Feral Horses in Western Canada* (1978a) which briefly outlined distribution, management and land use conflicts surrounding feral horses in western Canada. Both of these studies were very broad literature reviews and did not address specific biophysical or socioeconomic issues.

In 2002 Wayne McCrory of McCrory Wildlife Service's was contracted by Friends of Nemaiah Valley (FONV), an NGO aimed at preserving and protecting lands within the Nemaiah Valley (FONV, 2009), to prepare a preliminary conservation assessment of the habitat present within the Brittany Triangle. The resulting document was entitled *Preliminary Conservation Assessment of the Rainshadow Wild Horse Ecosystem, Brittany Triangle, Chilcotin, British Columbia, Canada: A review of grizzly and black bears, other wildlife, wild horses, and wild salmon*, and commented on feral or wild horses, conservation and habitat values, threats and habitat use and species occurrence or abundance. Pertaining to the free-roaming horses the study indicated that:

British Columbia's extirpative management policies and negative management attitudes toward feral horses has not kept pace with contemporary research,

contemporary heritage/conservation initiatives elsewhere in North America, and contemporary public attitudes about wild horse preservation. These negative B.C. policies persevere despite research that clearly demonstrates that wild horses can generally co-exist with cattle and wild ungulates on the circumstances, and with careful population control. (p.vii)

McCrary's study focused specifically on the Brittany Triangle. The Brittany Triangle, protected in part by Nuntsi Park, has different land use patterns to that of the area studied within this research. Cattle grazing is limited and the horses in the Brittany Triangle rarely come into contact with human activity.

### **Stakeholder Interests**

Much work has been conducted into stakeholder interest pertaining to environmental issues (Berkes et al., 2003; Carlsson and Berkes, 2004; Riley et al., 2002). It is a common understanding among natural resource and environmental (NRE) experts that success "in the twenty-first century will depend on their skill at integrating biological and human dimensions" (Riley et al., 2002, p.585). Environmental issues cannot be resolved without the "participation of those most affected" (Ludwig, 2001, p.763).

Stakeholder interest studies regarding the management of free-roaming horses are uncommon, although existing literature has identified the lack of research in this area as a gap, which needs to be addressed. In most instances free-roaming horse issues are often characterized by conflicting interest groups and public opinion into how management should proceed (Nimmo et al., 2007; Beaver, 2003).

In a study of community attitudes and perceptions regarding feral horse management in Victoria, Australia, Nimmo et al. (2007) found that the perceived success of government initiated feral horse management techniques were dependent upon previously held values and attitudes.

Quantitative methods were utilized using mail surveys to assess the social, economic and ecological factors influencing the perceptions of ranchers who are directly affected by feral horse bands. Research conducted by Nimmo et al. (2007) contributes to a growing body of literature surrounding the importance of social values related to wildlife management, as well informing policy as to which management techniques are preferred by the public. Through Deakin University, Nimmo et al. (2007) was the first to examine the human dimensions of feral horse management in Victoria. The study identifies the need for an examination of social values surrounding feral horse management and identifies useful methodological strategies (Nimmo et al., 2007).

In a recent study dealing with the transmission of disease to livestock and factors affecting farmer attitudes, Stronen et al. (2007) examined farmer attitudes related to wolves in the area surrounding Riding Mountain National Park, Manitoba. The study used mail questionnaires to determine farmer attitudes toward wolves. The study found that education, age and personal experiences had little influence on wolf tolerance, whereas perceptions, social identity, and occupation did affect tolerance. The study contradicts previous studies, which have found that higher education had a positive effect and age was negatively correlated with attitudes toward wolves (Stronen et al., 2007). These examples illustrate that generalizations cannot be made based on demographics alone. Much research has taken place on wildlife values related to farmers in Africa. Studies tend to focus on large carnivorous game, which pose a direct risk to domestic stock (Selebatso et al., 2008), whereas grazing competition from free-roaming horses poses an indirect risk.

Research conducted on cheetahs in Botswana also found that farmers with increasing levels of education were more likely to support conservation (Selebatso et al., 2008). The study

concluded that “education and active involvement of farmers in planning and decision-making concerning cheetah management would enhance farmers’ positive perception of cheetah conservation” (Selebatso et al., 2008, p.430). Although research is not affecting ranchers perceptions but instead to gauge stakeholder interests, it is important for community members to be actively involved in the management of wildlife. Stakeholder interests have management implications, especially in areas where the species is increasingly isolated (Stronen et al., 2007) such is the case with the free-roaming horses of the Chilcotin.

The authors of a recent study on wild dog conservation in South Africa, used surveys and interviews to determine that the majority of ranchers in South Africa would like to explore in situ conservation of wild dog packs. The study performed by Lindsey et al. (2005) from the Mammal Research Institute, University of Pretoria, found that ranchers are increasingly aware of the financial gains associated with ecotourism surrounding wildlife (Lindsey et al., 2005). Previous studies have focused on large carnivore conservation in reintroduced scenarios, whereas the study outlined assesses rancher attitudes toward in situ projects, an area that has not been explored in previous studies. Secondly, the study acts as an assessment of rancher values toward wild dogs and recommends work be performed to increase the perception of large carnivores in South Africa (Lindsey et al., 2005). The work of Lindsey et al. (2005) is relevant because it uses a similar methodology to this research and involves attitudes within a dynamic human demographic.

Management responsibility between stakeholders requires open communication and understanding. In a study of state and federal resource agency employees, Saltiel and Irby (1998), examine whether or not the perceptions of farmers and ranchers were being accurately understood and assessed. The study found that state and federal employees act as a conduit of

information between agricultural producers and government administrators. Saltiel and Irby (1998) continue by stating that:

..professionals in resource agencies who accurately judge the perceptions of farmers and ranchers toward damage by wildlife can provide valuable information to program managers. Without such information, efforts to encourage wildlife conservation on private lands may be undermined (Saltiel and Irby, 1998, p. 87)

Satiel and Irby (1998) conclude that better communication is needed between the agricultural community and policy development agencies. If communication is not improved the risk of developing policies based on erroneous and one-sided information is increased.

Within literature pertaining to free-roaming horse management there is a clear lack of focus on the interaction of horses with the socioeconomic and cultural landscape. The connection between horses and the cultural landscape is extremely important in the Chilcotin (Hayes, 2007). Research conducted on this topic will aid in reducing the gap present in current literature. The majority of literature present pertains to interaction with the biophysical environment and was conducted during the 1970s and 1980s; therefore, existing literature is not current in terms of theory or methodological approaches. There is also a clear lack of First Nation perspectives present within any of the relevant existing literature. The First Nations population represents a key stakeholder which has not been adequately represented (McCrorry, 2002).

Demographics are another important aspect of free-roaming horse management. Demographic studies are predominately focused on feral horses and burros in the United States or brumbies in Australia. The studies focus primarily on fertility and population assessments. There is some literature published regarding population assessments, especially pertaining to count methodology. Overabundance studies conducted indicate that:

Overabundant or expanding native species can reduce natural diversity by monopolizing resources, introducing or spreading infectious diseases and parasites, changing the species composition or relative abundance of sympatric species and even causing local extinctions (Garrott and Vanderbilt White, 1993, p. 946)

Population or overabundance studies tend to focus on a range of species. Due to the multitude of factors affecting free-roaming horse management, population studies need to be species specific if they are to be useful in informing management decisions.

Literature dealing with free-roaming horse's interaction with the biophysical landscape addresses a gap in knowledge. Literature mainly pertains to ecosystems not directly comparable to the Chilcotin. Most deals with domestic horses in domestic landscapes located in Europe and the US. To date no studies have been conducted on the interaction between free-roaming horses in the Chilcotin and their interaction with the biophysical landscape. Free-roaming horse management research is mainly focused on landscapes in the US, Australia and Europe, each of these have characteristics which differ from that of the Chilcotin but do offer some insight into strategies and practices. Stakeholder interest studies are abundant but ones that deal with free-roaming horses are limited. A clear gap in these studies is the interaction of horses with the socioeconomic and cultural landscape, a connection that is immensely important within the Chilcotin.

## **Canadian Policy and the Chilcotin**

### **Environmental Management in Canada**

#### *Role of Institutional Actors*

Wildlife legislation within Canada occurs at two levels, federal and provincial. Under Canadian legislation, wildlife is considered part of the land and therefore falls under property. Overall, the general rule is that provincial and territorial governments manage wildlife on provincial and territorial land and the federal government manages wildlife on federal land. There are exceptions to this rule. The federal government has residual power, under Peace, Order

and Good Government (POGG). Due in part to this residual power, the federal government also has the right to manage inter-jurisdictional wildlife, fisheries, migratory birds and any laws pertaining to wildlife that impact Aboriginal rights (McGill University, 2009).

### *Wildlife*

Federal legislation for wildlife takes place under six main acts, the Canadian Wildlife Act, Species at Risk Act (SARA), the Migratory Birds Convention Act, the Wild Animal and Plant Protection, the National Parks Act and Regulation of International Interprovincial Trade Act and the Canadian Environmental Protection Act (Environment Canada, 1999).

The Canadian Wildlife Act, passed in 1973 and enacted by the Canadian Wildlife Service a division of Environment Canada, “allows for the creation, management and protection of wildlife areas for wildlife research activities, or for conservation or interpretation of wildlife” (Canada Wildlife Act, 1985). National Wildlife Areas (NWA) are created in order to preserve the habitats of migratory birds and wildlife species, especially those at risk (Canada Wildlife Act, 1985). Historically the Canada Wildlife Act focused on consumptive use such as fishing and hunting. With a rise in conservation movements the government began to move toward a more holistic view of wildlife by incorporating both management and conservation (Nowlan, 1996).

Much has been written regarding protected areas in Canada. Canadian National Parks were historically established in order to promote protection of natural attractions. Many parks are created based on political and economic factors with little attention being paid to the ecologic or social aspects (Dearden and Dempsey, 2004). The trend seems to be reversing, with the protected areas system experiencing more changes in the last decade than any other in Canadian history (Dearden and Dempsey, 2004). According to Dearden and Dempsey (2004), only 2.95% of Canadian ecosystems were protected in 1989, compared to 6.84% in 2000; accounting for a

rise of almost 4% in ecosystem protection in just over ten years. Along with the increase in protected areas, managers have also begun to focus on a more holistic and ecosystem based approach to park management. Incorporation of local landowners has become an important aspect of park management (Dearden and Dempsey).

On a provincial scale, the B.C. Wildlife Act as well as B.C. Parks, through the Park Act, the Ecological Reserve Act and the Environment and Land Use Act, are the two main divisions used to enact wildlife legislation and policy, both of which are enacted under the supervision of the Ministry of Environment. The B.C. Wildlife Act is aimed at protecting species in B.C. (Nowlan, 1996) and employs two main strategies for the management of wildlife. These strategies are managing wildlife takings through specific species protection methods and licensing as well as managing habitats (British Columbia Wildlife Act, 1996). As previously cited, emphasis on conservation for the sake of consumption has shifted to conservation for the sake of wildlife and ecological preservation, although it is argued that in B.C. current legislation does not reflect this shift (Nowlan, 1996).

According to Dearden and Dempsey (2004), 325 new protected areas have been designated in B.C. over the last decade. With 12% of its land base protected, B.C. has more protected land than any other province in Canada. Nowlan (1996) acknowledges that although B.C. has improved the capacity of protected areas to conserve wildlife, there is still much to be done in terms of designing these areas. Emphasis to protect areas based on political factors must be revised to account for aspects such as biodiversity and multiple species habitats (Nowlan, 1996).



### *Range*

Crown land within Canada comprises 90.3% of the land base. This means that government policy directly affects stewardship of the majority of land in Canada. Decisions made by government policy affect a broad and diverse percentage of the Canadian population, making resource and environmental policy particularly significant (Hessing et al., 2005).

Rangeland, or range, is a broad term used to describe those areas of forage used by livestock and wildlife. In the case of B.C., these lands can include grasslands, forests, shrub lands and wet meadows (Milroy and McLean, 1980). Jurisdiction of Crown rangelands is the responsibility of individual provincial governments.

Crown rangelands represent unique ecosystems, which until 1919 were informally managed by leases through the Lands Act. It was not until 1919, and the passing of the Grazing Act, that Crown rangelands in B.C. were formally managed (Milroy and McLean, 1980). Currently these lands are managed under the Forests and Range Practices Act (Ministry of Forests and Range, 1999). Enacted in 1978, the Range Act stemmed from a revision of the Forests Act and the Grazing Act. This revision resulted in the decentralization of range functions to the forest district level. According to the Ministry of Forests and Range, “the range program, through district managers, allocates resources among range users, considering sustainability of forage and wildlife habitat, the economic needs of the ranching industry and other interests” (Ministry of Forests and Range, 1999).

Subsequently, the Forests and Range Practices Act was created in 2004 and represented a provincial wide transition to a “results-based forest and range practices code with penalties for non-compliance” (Grasslands Conservation Council of British Columbia, 2009). The Forest and Range Practices Act focuses on governing range practices and took over from the Range Act,

1978, which governed the allocation of Crown forage. Any person utilizing crown rangeland for activities including, but not limited to, grazing cattle must hold either a range lease or range license through the Ministry of Forests and Range. Once allocated, the agreement holder must prepare a range use plan or range stewardship plan, which must be consistent with government objectives set out in respect to, among other aspects, the spread of invasive plants and habitat requirement for endangered species (Ministry of Forests and Range, 1999). Under the Forests and Range Practices Act, grazing and hay cutting licenses and permits are issued for five to ten years (Association of B.C. Forest Professionals, 2005).

According to the Ministry of Forests and Range (1999), resource stewardship is a key range function. Stewardship in this context “ensures that the future value and productivity of the province's forest and range resources are not jeopardized in the pursuit of short term gains”. Furthermore, “rangeland provides forage for both domestic livestock and wildlife. Range administration aims to allocate resources fairly among users, including the ranching industry, commercial operators, recreationalists, wildlife, and the general public” (Ministry of Forests and Range, 1999).

With an increased recognition of the complex interactions present within ecosystems and their relationship to socioeconomic factors, Canadian natural resource and environmental (NRE) policy has shifted from a focus on exploitation to the more recent concept of resource and environmental management (Hessing et al., 2005). Due to the necessary interaction between public and private interests, resource and environmental issues are inherently political in nature (Steel et al., 2003). Stakeholder dynamics, numbers and types have increased in recent years, putting increased attention and interest onto the policy process. This increased attention has, according to Hessing et al. (2005):

Resulted in the expansion of policy networks (those individuals involved in decision making) and communities (those individuals interested in policy outcomes) concerned with resource and environmental issues. Increased demand on resources by competing interests has also occasioned increased levels of conflict between stakeholders, reflected in, and mediated by, the policy process. This transition represents not only a national but also a global shift toward sustainable planning, policy and management (p.5).

#### *Role of Non-Institutional Actors*

Non-institutional actors are agencies that are not governments or government affiliated.

The United Nations Development Programme (UNDP) defines non-government organizations (NGOs) as “any non-profit organization, group or institution that operates independently from a government and has humanitarian or cooperative, rather than commercial, objectives” (Steel et al., 2003, p.30). In this case NGOs can be categorized into environmental groups, the scientific community, media, political parties and corporations or economic interest groups, which would not fall under the UNDPs definition of an NGO but do represent a large percentage of interest organizations (Steel et al., 2003).

When examining NRE policy each group can have a different and direct role given the pervasive multijurisdictional and multidisciplinary nature of natural resource and environmental issues. Since the 1960s, the scale and scope of environmental interest groups has risen significantly. Groups can be local, national or even international in scale, all with the common goal of environmental protection (Steel et al., 2003). Although all focused on NRE policy, much differs in terms of individual ideological orientation, policy preference and methods utilized. Methods can include protesting, campaigning, lobbying, awareness and education.

Just as environmental groups have increased, so has media coverage of environmental issues. With the increase of scientific knowledge and environmental movements, media which

acts as a “window to the rest of the world” (Steel et al., 2003, p.33), can often play a large role in environmental policy. According to Hessing et al. (2005, p. 130),

The news media promote ‘civil’ discourse, providing discussion of matters of public concern. Media coverage contributes to and upholds the politics of contemporary democracy by articulating a civic culture and fostering social cohesion around various issues.

Coverage of environmental issues in mass media provides information to the public and can act as the basis for political action. On the other hand it is assumed that this increased coverage corresponds to increased awareness by the public, that information flows from the source through the media and back to the public (Hessing et al., 2005), although this is not always the case. Mass media focuses on direct, obvious issues and evident crises. The majority of environmental issues are “open ended issues which are continual over long periods of time” (Hessing et al., 2005, p.133), resulting in oversimplified and often sensationalized translations.

NGOs and media also have a unique relationship with public opinion. It is undeniable that public opinion influences public policy. What is questionable is the role NGOs and media have on public opinion and therefore public policy. In his paper *The Impact of Public Opinion on Public Policy: A Review and an Agenda* Paul Burstein (2003) examines the relationship public interest groups have on public policy. According to Burstein (2003) the more salient an issue is to the public, the stronger the relationship between public interest and policy formation. The relationship between public interest and policy formation is often influenced by the power held by interest organizations, public parties and economic elites (Burstein, 2003). Burstein states that, “the resources available to interest organizations may enable them to get what they want, even in opposition to public opinion, and political parties may, when in office, enact policies favoured by their most ardent supporters rather than the general public” (p.30). Burstein

continues that, “even if interest organizations may be influential, their political activities may be most effective when consistent with public opinion” (p.31).

Although interest groups may enhance the impact of public opinion on policy, in most cases they represent some groups more than they represent others. In terms of environmental issues, in this case large dynamic species such as horses, the combination of misrepresentation from media and at times overrepresentation from NGOs undoubtedly plays a large role on the outcome of public policy (Cook et al., 1983).

### **Chilcotin Region**

At present free-roaming horse population numbers are unknown. The Chilcotin Forest District is in the process of assembled a comprehensive document outlining feral horse counts, entitled *Chilcotin Feral Horse Count Surveys: 1991- 2009*. Table 2.1 presents horse count estimates for the study site: 1995-2009. The estimates provided have been collected from a the report provided by the MOF. The report indicates that past studies have utilized aerial methods with a random flight pattern. The count conducted in 2009, reporting 539 horses, utilized a structured flight pattern consistent with current demographic methodologies. The draft report does not account for seasonal variations in horse numbers or range unit breakdown.

Depending on the time of year, horse numbers can seem inflated or deflated. Late winter or early spring counts will seem inflated due to the presence of foals, which may not survive into the next year. Horses also tend to take cover in the summer months and in the presence of aircraft, a fact that could affect the ability to assess numbers (Linklater and Cameron, 2002). Even with proper documentation, aerial count methods cause uncertainty in the validity of the rate of increase (Frei et al., 1979). Due to these disparities in count methods Table 2.1 is an estimate, not an actual representation of horse population numbers in the study site.

**Table 2.1: Study site free-roaming horse population estimates: 1995-2009  
(Adapted from Alexis Creek Forest Service, 2009)**

Range Units	2009*	2007	2003	2000	1997	1995
Haines	150	200	50	100	100	50
Bidwell	21	0	10	21	12	18
Redbrush	155	216	41	24	13	19
Temapho	67	162	42	31	0	2
Biddy Creek	39	23	5	15	5	2
Stum Lake	61	76	0	13	13	11
Anaham	14	0	0	15	0	5
Bell Creek	5	0	15	0	0	5
Ridge	19	26	7	0	0	0
Tatla Sidehills	0	0	11	4	8	31
Sisters	1	15	12	0	0	0
Palmer	5	0	0	16	15	6
Punti	2	0	0	0	0	0
<b>Study Site Total</b>	<b>539</b>	<b>718</b>	<b>193</b>	<b>239</b>	<b>166</b>	<b>149</b>
*change in count methodology						

### *Historical Free-Roaming Horse Management*

Horse management in the Chilcotin has historically been the responsibility of the Ministry of Forests and Range. Little is published regarding free-roaming horse management in the Chilcotin. The majority of information presented was collected from a request for information under the *Freedom of Information and Protection of Privacy Act* (FOI), through the Ministry of Forests and Range. The request resulted predominately in round up and shoot permits, although some memorandums and media articles were also present.

According to a report published in 2007 evaluating the rangeland health of the Haines Creek Range Unit, Doug Fraser, Range Practices Officer, notes that:

Feral horses have also been present on the plateau for a long time. Their numbers have fluctuated over the years, and government has at times taken measures, including bounties and round-ups to control their populations (p.1).

Historically free-roaming horse management has meant a range of different goals, strategies and techniques. Formal publications on early management do not exist. Informal media articles provide some insight into techniques utilized but these accounts are very sensationalized and do not contain specific details pertaining to historical legislation or policy. One article published in The Daily Province newspaper in 1940 commented on a government-sanctioned roundup and bounty, which paid \$2.50 for every pair of ears collected (Findlay, 2005).

Permits collected through the FOI request are mostly between the 1960s and 1980s as part of the Ministry of Forests, Horse Control Program (HCP). The only documentation found pertaining to management programs prior to the 1960s stated that:

From about 1924 to at least 1946, the BC government's policy on wild horses was one of a controlled season for purposes of elimination. Although there was no actual declared open seasons on horses, the Ministry of Lands and Forests closed ranges for 'roundup shooting'. Through livestock associations, appointed horse hunters could obtain a license from local government agents to shoot feral horses...One government source estimated that 7,000 – 9,000 horses were shot over a 22 year period although 'records were not accurately kept' (McCrory, 2002, p.59).

The earliest permit present is dated in the early 1960s and cites:

Pursuant to the provisions of the Grazing Act being Chapter 168, R.S.B.C. 1960 and Amendments, you are hereby granted authority to round up or shoot horses, branded or unbranded, found running at large on Crown range within the area outlines in red on the attached map, subject to the following conditions.

The conditions specified that:

only horses which cannot be reasonably and humanely rounded up may be shot..every effort be made to avoid conflict through the unnecessary rounding up of horses quite apparently in current local use on the range..any Indian wishing to repossess a useful horse rounded up may do so, if without funds, by substituting a useless horse of similar weight

Conditions go on to specify humane treatment and licensee conditions.

The last permit available through the FOI is dated 1989 and states that according to provisions of *Sections 43 and 45 of Chapter 355, Range Act, (BC Regulations 575/78)*, authority is given to “round up horses, branded or unbranded, found running at large, only, on Crown range within the area outlined in bold black on attached 1:50,000 map, subject to the following conditions”. Conditions were similar to those found in the first permit with the exception of a statement that “no horses may be shot”.

Over the span of the HCP many amendments and policy changes occurred. There is no way of knowing for sure why the program came to an end although anecdotal evidence points to increased media attention and a lack of funds. It is evident that increased pressure from media and the public resulted in the change in policy from allowing horses to be shot to not allowing horses to be shot. In a memorandum from L.W. Resh, District Range Manager , Williams Lake to all Rangers, Range Supervisors and Range Agrologists, Cariboo Forest District in Jan 28<sup>th</sup> 1977, Resh comments that:

We do not wish you to over publicize our horse program but if asked, explain with range management reasons why we do not recognize horses as having a wild status in the ecology of B.C. Some range management reasons for horses control are from trampling damage caused by horses at certain times of the year, heavy grazing effect on certain open range sites by congregating horses and competition with cattle as a lot of grazing areas are fully stocked. Other reasons include competition with existing wildlife, areas with little winter rustling cause inhuman conditions to the horses during the winter, and trespass to stock running free with the feral herds add headaches to our administration of Crown ranges, etc

In a previous memo J.E. Milroy, Director, Range Branch noted that:

There has been a substantial revival of interest in our horse control program by scattered persons. It seems that this is recurrent from time to time. Some interest and enquiry is helpful in that it serves to keep our program under review by ourselves and toned up where necessary. Too much clamour has been embarrassing and has frustrated the program on occasion in the past. A semi official policy from this office in the past has been to muffle any publicity about our program and to make a scanty reference to the ongoing activities as we could when treating enquiries for fear the horse preservationists would shout it to a standstill.



These are two of numerous examples exhibiting the frustration felt by MOF range workers during the HCP.

Media attention culminated in 1988/89 beginning with the publication of an article by Terry Glavin in Vancouver's Sun Paper entitled *The Killing of the Wild Horses*. The article spurred public attention as far as Ontario and Ottawa, inundating the MOF regional offices with letters from concerned citizens. In 1988 the Chilcotin Forest District Operations Manager sent a confidential letter to the Regional Staff Manager, Cariboo Forest Region stating:

It appears that the media aren't letting go of this story...After discussing this matter internally we are proposing the following course of action:

1. Restrict this year's horse control program to Range Act enforcement i.e. roundup of domestic animals that are on the range illegally, in response to specific problems and in most cases ownership will be evident.
2. Initiate a program to gather information on the 'feral' horse population in the District and to document what impact this population is having on the range resource and the cattle industry. I envision a multiyear study with some preliminary results available at the end of the first year which could be used as a basis for decision making.

The letter continues to state that, "due to our chronic shortage of staff and expertise in Range this study is beyond our present capability."

The MOFs perspective throughout has been that "these animals are feral; that is, abandoned or lost. They band together and, if weather conditions permit, may breed and increase in numbers. Surviving over time away from man, they become elusive and behave much the same way as wildlife".

### *Origins*

Much literature has been published on the topic of free-roaming horse origins in North America and across the world. Literature is often conflicting and has fuelled ongoing debates regarding origins of the free-roaming horses of the Chilcotin. One side argues that the horses

originate from Spanish stock, while the other side argues that the horses are escaped domestic stock from cattle ranches and early pack trains (McCrary, 2002). Although little has been published regarding the Chilcotin horses specifically, much has been written on the broader topic of wild horse origins. Although much literature exists regarding the origin of horses in the wild, only a small proportion of the literature is peer reviewed, having been supported by relevant and reliable research.

Horses evolved in North America, with some crossing into Asia via the Bering land bridge. According to paleontological evidence horses in North America went extinct approximately 8,000 years ago, but were brought back by Spanish conquistadores during the sixteenth century (McCrary, 2002). Evidence indicates that Spanish horses were brought to North America beginning with Columbus' second expedition in 1493 (McCrary, 2002).

Ryden (1978) in her book *Americas Last Wild Horses*, explains the importance of the horse to North America, she states:

Because the wild horse was introduced into North America by explorers during the sixteenth century, he has frequently been denounced as an interloper and denied legal protection granted to our native animals. However, many who have condemned the wild horse for his alien status are unaware that it was North America that actually spawned the horse and gave this amazing creature to the rest of the world (Ryden, 1978 in McCrary, 2002, p.43).

Ryden's perspective is one side of the debate currently occurring surrounding the origins of the Chilcotin horses. The other perspective is that the Chilcotin horses are escaped domestic pack stock, meaning that they escaped from fur and gold pack trains or cattle ranches during the early 1800s. Researchers who support this claim argue that the route taken by fur traders started in Alexandria, B.C. and passed through the Chilcotin south to Fort Colville. According to LeBourdais horses escaped and proceeded to form horse bands present today (McCrary, 2002).

These perspectives provide an outline to a highly controversial issue. The belief is that if the horses are the descendants of Spanish stock then they represent a historical natural icon, present on the landscape for long enough to be considered naturalized. If they are released pack stock then they represent a feral non-native species that is interfering with native and domestic stock. Currently there are ongoing scientific and cultural studies researching the origins of free-roaming horses in North America, including a genetics study in the Brittany Triangle (McCrary, 2002). Understanding debates surrounding free-roaming horse origins are important because of the role in placing this research project within a historical context. Research within the project focuses on the present state of free-roaming horses on the landscape and does not directly address the origins debate.

#### *Tsilhqot'in First Nation*

Established in 1989, the Tsilhqot'in National Government's (TNG) goal is to meet the needs and represent the Tsilhqot'in communities of Xenigwet'in, Tlet'inqox (Anaham), ?Esdilagh (Alexandria), Yunisit'in (Stone), Tsi Del Del (Redstone) in their endeavour to re-establish a strong political government structure.

TNG has a dedicated obligation to its people to establish programs that reflect Tsilhqot'in Culture and Customs in every aspect of governments. The role of TNG administration is to carry out the wishes of Tsilhqot'in members through their respected Chieftainship. The TNG continues to advocate on behalf of all Tsilhwot'in members regardless of the many labels Foreign Governments place on its membership. (Tsilhqot'in National Government, 2009)

The Chilcotin today remains largely unsettled by Euro-Canadians, in the past this may have been in part due to the remote geography and history of the area. Today it is a result of the remote geography as well as the TNG and their actions "to prevent settlement and to keep a road from being built through their territory" (Sutton Lutz, 2008, p.119). All TNG communities, with the exception of the Xenigwet'in are now accessible via Highway 20, which has only been

paved for the past few years (Sutton Lutz, 2008). A brief history of the Xeni Gwet'in within the context of free-roaming horses will be presented.

Xeni Gwet'in lands are located approximately 225km southwest of Williams Lake on the shores of Chilco lake (Figure 2.1). Also known as the Nemaiah Band, the Xeni Gwet'in have a population of approximately 330 with the majority living on traditional lands. Up until the early 1970s, the Nemaiah Valley was only accessible by wagon allowing for a continuation of traditional culture with few influences from outside. The Xeni Gwet'in First Nations have been occupying these lands since before European contact and have archaeological evidence that dates back 500 years (Xeni Gwet'in, 1993).

The Nemaiah Valley and Brittany Triangle are part of the traditional territory of the Xeni Gwet'in First Nations. The Xeni Gwet'in practice a horse culture and “closely identify themselves with their horses” (McCrary, 2002, p.35). Trade and environmental resources were a part of the Tsilhqot'in economy and social structure long before the arrival of European settlers (Sutton Lutz, 2008). Horses have cultural, spiritual and economic significance to the community, who collect domestic riding stock from the horse bands in the area. The Xeni Gwet'in are vocal in their sentiments toward conservation and management of the horses.

Since the early 1980s the Xeni Gwet'in have been involved in extensive land and legal claims which culminated on May 7, 1992 when a road block was formed by the Xeni Gwet'in, preventing Carrier Lumber Ltd. from logging in the Brittany Triangle. The roadblock resulted in months of meetings between the Xeni Gwet'in, the Ministry of Forests and Carrier Lumber Ltd. Meetings were held to resolve the issue, resulting in the creation of the Nemaiah First Nations Natural Resource Management Policy Plan (Xeni Gwet'in, 1993). The management policy plan created the Elegesiqiyus Wild Horse Preserve (Figure 2.1) which encompasses both Nuntsi and

Ts'il?os Provincial Parks as well as the Brittany Triangle. The study area is located at the top of the image between Tatla Lake and Hanceville (Lees Corner on the map). Eight guidelines are outlined regarding activity within the Preserve. These conditions include a ban on commercial logging, a ban on mining and mining exploration and a ban on commercial road building (Xeni Gwet'in, 1993). The policy plan also outlines the bands willingness to communicate regarding co-management:

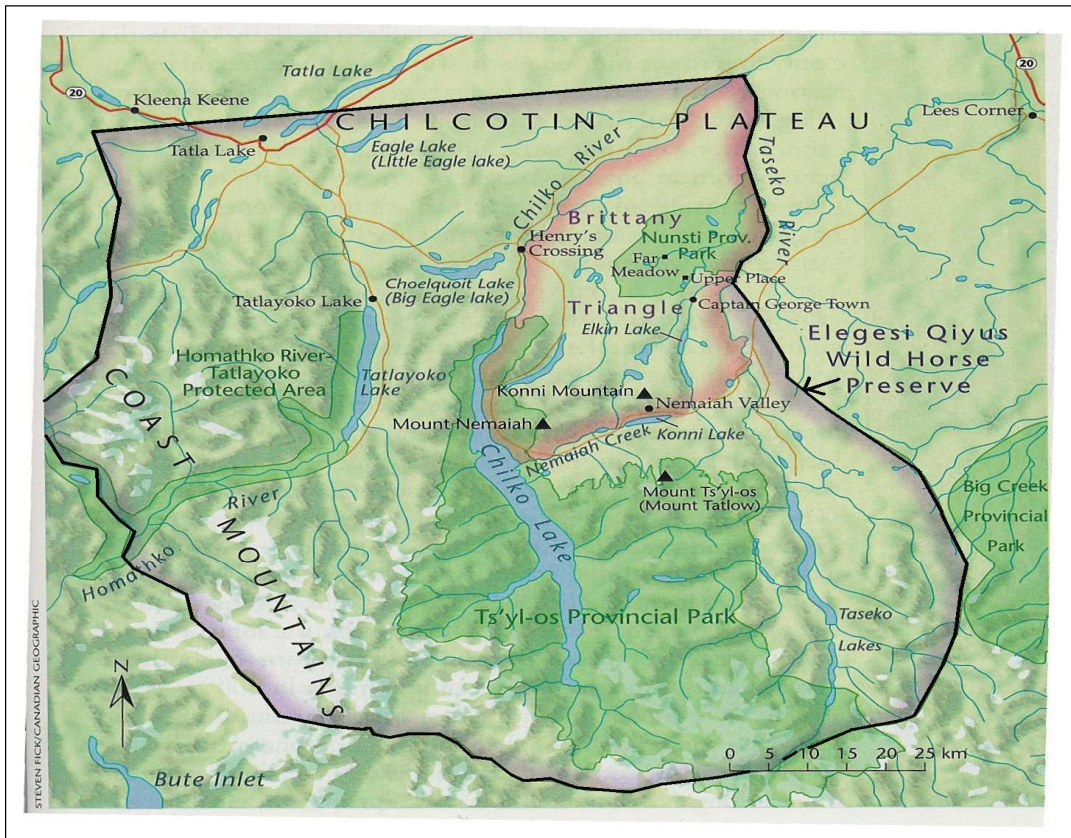
We are prepared to share our Nemaiah Aboriginal Wilderness Preserve with non-natives in the following ways; (a) with our permission visitors may come and view and photograph our beautiful land. (b) we will issue permits, subject to our conservation rules, for hunting and fishing within our Preserve. (c) the respectful use of our Preserve by canoeists, hikers, light campers, and other visitors is encouraged, subject to our system of permits. (Xeni Gwet'in, 1993, p.3)

The above quote indicates the Xeni Gwet'in's openness to co- management. Preparation of the policy plan was a way for the Xeni Gwet'in to work toward resolution with the government.

Conflict has important implications for the free-roaming horses of the Brittany Triangle. The policy plan states that the Xeni Gwet'in:

...are very concerned about the effects of conventional resource activity (in the form of large scale clear-cut logging) on their economy, their tribal social structures, and on their deeply held traditional, religious and environmental values (Xeni Gwet'in, 1993, p.4).

This statement indicates that religious and environmental values within the community are connected to the fate of the free-roaming horses. Economic and social structures within the Xeni Gwet'in community rely on the presence of free-roaming horses for personal use, trade, sale and cultural values.



**Figure 2.1: Map of Xeni Gwet'in First Nations traditional lands including the Elegesí Qiyus Wild Horse Preserve (Findlay, 2005, p 51).**

The wild horse preserve outlined in the policy plan was in part protected in order to promote conservation of the free-roaming horses. Since the policy plan was created, the Xeni Gwet'in have continued in their legal land claims. In 2002, with the help of FONV and the conservation report created by McCrory (2002), the Xeni Gwet'in First Nations Government created the Eligesí Qiyus Wild Horse Preserve. The wild horse preserve, which encompasses the Brittany Triangle is over 800 000 ha in size (FONV, 2009). In November 2007, after almost twenty years a decision was reached in the Tsilhqot'in Nation v. British Columbia Aboriginal title court case. The Honourable Mr. Justice Vickers did not make a declaration of Aboriginal Title but did express the opinion that, "Tsilhqot'in Aboriginal title does exist inside and outside

the claim area” (Tsilhqot’in Nation v. British Columbia, 2007). The decision went on to clarify that:

Tsilhqot’in people have an Aboriginal right to hunt and trap birds and animals throughout the Claim Area for the purposes of securing animals for work and transportation, food, clothing, shelter, mats, blankets and crafts, as well as for spiritual, ceremonial, and cultural uses. This right is inclusive of a right to capture and use horses for transportation and work. (Tsilhqot’in Nation v. British Columbia, 2007)

The court case is currently being appealed by the province of British Columbia.

Although the Xenigwet’in are themselves not part of the study area, much has been written about the community due to the ongoing court case and subsequent media attention. The abundance of published documents and public interest has drawn provincial, national and international attention to not only the Xenigwet’in but also to the entire region.

### *Ranching*

Cattle ranching is a major industry in Canada contributing \$25 billion to Canada’s economy in 2007, with BC alone contributing 10.6% of all Canadian beef on the market (British Columbia Cattlemen’s Association, 2009). B.C.’s cattle industry started with the ‘Cariboo (Chilcotin) Gold Rush’ in 1858 when cattle were herded into the region in order to provide meat to gold entrepreneurs (Steves and McLean, 1989). Shortly thereafter large-scale ranching began in Kamloops, Merrit and the Okanagan. Ranching was well established on the Cariboo Chilcotin grasslands by the 1880s (Gayton, 2003) and remains the region’s primary industry, sustaining the local economy (Hayes, 2007).

Published documents outlining the history of ranching in the Chilcotin are predominately in the form of heritage journals and accounts of local community members. One such book is *Chilcotin: Preserving Pioneer Memories* in which the Witte Sisters outline the early history of the Chilcotin region. Included in their account are stories of ranching in an inhospitable and

inaccessible yet romantic landscape. Horses represent a common underlying theme throughout the book. Although not addressed directly horses are present in all pioneer accounts. The importance of horses is addressed in the context of transportation, labour and at times companionship (Witte Sisters, 2005).

Ranchers have been actively interacting with free-roaming horses for as long as they have been in the region (McCrary, 2002). According to a report on BC's grasslands by Donald Gayton in 2003:

The first cattle were brought into the area by the Hudson's Bay Company in the 1830s, and herds of horses were noted in the Southern Interior by the late 1700s, and perhaps even earlier. (Gayton, 2003)

Due to the lack of literature pertaining to the Chilcotin specifically, it is impossible to gauge the effects of the cattle industry on the biophysical and socioeconomic landscapes. General impacts of cattle grazing on the biophysical environment include soil compaction, negative effects on litter cover, biomass and rodent diversity and richness (Jones, 2000).

Free-roaming horses exist at the interface between social, economic and environmental factors. Perceptions of the species, as well as its effect on the biophysical environment, are varied and often conflicted. Some view free-roaming horses as a national icon while other view them as a pest (Nimmo et al., 2007). Their effect on the biophysical environment is an equally contested issue. Numerous mixed grazing studies, between horses and cattle, have been conducted (Kuiters and Slim, 2003; Loucourgay et al, 2004; Menard et al. 2002). The results indicate that horses and cattle have differing use patterns (Menard et al., 2002), and the use of both species could benefit conservation efforts where managing diversity and plant heterogeneity is the goal (Loucourgay et al., 2004).



Free-roaming horse management studies have predominately been focused on landscapes in the United States (Beever, 2003), Australia (Nimmo et al., 2007; Symanski, 1994), Europe (Vega-Pla et al., 2006) and New Zealand (Linklater et al., 2002). United States studies tend to focus predominately on overabundance and fertility issues, while Australian and New Zealand studies focus on socio-political and socioeconomic issues. Data from these areas is useful but not completely transferable due to the differing socioeconomic and biophysical factors.

Stakeholder interests, values and attitudes were explored, finding that previously held attitudes and values greatly impacts the perceived success of government initiated feral horse management programs (Nimmo et al., 2007). Studies exploring the interaction between free-roaming horses and the cultural landscape, especially dealing with First Nations, are visibly absent from the literature.

Historically, manipulative management has been carried out within the Chilcotin through decreasing population numbers and population harvesting. The history of government sanctioned bounties and lack of policy regarding management of the free-roaming horses has led to assumptions regarding interests of ranchers as a stakeholder. Although studies have been conducted on free-roaming horse interactions with the biophysical landscape, management and stakeholder interests, no formal research has been conducted to date on either the effects of grazing on grasslands in the Chilcotin or on ranchers as a stakeholder in free-roaming horse management.

## **CHAPTER THREE: METHODOLOGY**

### **Research Design**

The research presented adopted a qualitative paradigm using a case study approach. The case study utilized on-site observation, document analysis and semi-structured interview methods. A narrative strategy was applied to certain aspects of the data collection. Narrative elicitation assisted in avoiding ambiguity of information and themes. A single-case study approach, as described by Yin (2003), was employed. A single-case study approach allows for the real-life examination of a situation within the context of its natural surroundings (Yin, 2003). The study met the outlined objectives through a number of methods. According to Yin (2003) a case study of this nature, “cannot rely on a single data collection method but will likely need to use multiple sources of evidence” (Yin, 2003, p. 4).

### **Disciplinary Framework**

This research is interdisciplinary in nature, utilizing aspects of political science, economics, biology, environmental science, anthropology and sociology. Environmental sociology is a sub-discipline of sociology involving, “recognition of the fact that physical environments can influence (and in turn be influenced by) human societies and behaviour” (Dunlap and Catton, 1979, p.244). Environmental sociology explains social phenomenon based on ecological and biophysical factors, as opposed to traditional sociology which explains social occurrences based on other social occurrences. The incorporation of environmental factors distinguishes environmental sociology as a distinct field of inquiry (Dunlap and Catton, 1979).

Dunlap and Catton’s seminal paper titled *Environmental Sociology* (1979) stemmed from a rise in environmental legislation in the 1970s, as well as increased attention from a number of

sociologists. Dunlap and Catton were responsible for the emergence of the New Environmental Paradigm (NEP), created in response to the Human Exceptionalism Paradigm (HEP) commonly used in sociology. The NEP provided an "alternative set of assumptions stressing the ecosystem-dependence of human societies" (Dunlap and Catton, 1979, p. 244). Dunlap and Catton have collaborated on many papers focusing specifically on NEP (Catton, 1980), and have published numerous books on the topic.

Environmental sociology has applications when dealing with wildlife issues as well as with environmental attitudes. According to Buttel (1987) "research on environmental attitudes and values pre-dated environmental sociology and has continued to be one of the most important areas of research in the sub-discipline" (Buttel, 1987, p.472). Contemporary literature on the attitudes within environmental sociology has been dedicated to examining policy related the environment (Buttel, 1987).

### **Study Participants**

The topic of the study was chosen based on a preliminary literature review and email correspondence with interested parties within the study area. The review and correspondence resulted in the identification of gaps in knowledge regarding the interests of stakeholders toward a strategy for best management practices of free-roaming horses.

With the exception of three of the four NGO representatives, stakeholders have all lived in the community for many years with most having strong historical ties to the region. None of the stakeholders are transient. Longevity within the region allowed for stakeholders to comment on both personal and communal factors within the study, framed by strong historical understanding.

**Table 3.1: Total interviews conducted within stakeholder groups**

<b>Local Government</b>	Ministry of Forests and Range (MOF)	Ministry of Environment: Ecosystems Manager (MOE)			<b>4</b>
<b>Non Government (NGO)</b>	Canadian Horse Defence Coalition (CHDC)	Friends of Nemaiah Valley (FONV)	Nature Conservancy of Canada (NCC)	Ducks Unlimited Canada (DUC)	<b>4</b>
<b>First Nations</b>	Chief of Anaham	Chief of Redstone	Chief of Stone		<b>8</b>
<b>Ranchers</b>					<b>8</b>
<b>Other</b>					<b>5</b>
<b>Total</b>					<b>29</b>

The interests of a number of different stakeholders were examined throughout the research. A breakdown of stakeholder groups and total number of interviews conducted within each group is presented in Table 3.1. In total twenty-five participants were interviewed. The total in Table 3.1 equals more than twenty-five because some participants represented more than one stakeholder group. Accurate population statistics for the study site are not available due to the low density of individuals living in the area. All available population statistics include the study site in regional population counts. Total population of the study site is estimated at 1,400 individuals, a number compiled based on TNG, as well as independent counts (Tsilhqot'in National Government, 2009; BC Stats, 2006; British Columbia Tourism Travel Guide, 2009). Of the twenty-five interviews, 60% were male and 40% were female with ages ranging between twenty and eighty, although the majority were in their late thirties to early fifties. Within each stakeholder group the gender breakdown is relatively equal. Males made up 40% of NGOs, 55% of ranchers, 66% of the government and 85% of First Nations. Twenty-five interviews accounts

for 2% of the total population. Stakeholder interests were assessed using representative key informant interviews; the aim of this study was not to be statistically representative of the greater population.

Stakeholder identification used a preliminary list created in collaboration with local government officials and NGOs. Once preliminary participants were identified, these participants went on to identify other participants, facilitating a stakeholder based identification procedure.

### **Verification**

A number of techniques were utilized in order to allow for verification of results. The daily review and analysis of field notes acted as a tool of verification while in the field. The idea of a verification focus group was presented to each interview participant with the vast majority indicating that the topic, and issues surrounding it, were too controversial to put everyone in one room together at this time. This study aims to improve communication, and therefore collaboration between and among stakeholders (Dearden and Mitchell, 2005). Some participants asked to receive a draft of the document and some the final product. A contact person has been established within each First Nations community. The contact will receive a copy of the final thesis. This format allows for individually designed verification, which fits with the controversial nature of the issue.

### **Data Collection**

Data collection occurred through four different methods, each specifically designed to fit with the objectives of the study. The first objective, *to define the issue, including past and present geographic location of the free-roaming horses*, was met through a detailed document

analysis. At the beginning of the field season, the FOI request was submitted to the BC Ministry of Forests and Range, requesting all documentation regarding free-roaming horses in the Chilcotin. The FOI information was received in early September 2009. The FOI information as well as other literature pertaining to the history of the horses was collected and reviewed in order to assess the past geographic location of the horses. Study participants were asked, during the interviews, to locate if and where they have come into contact with the horses. Information collected was used to define the present geographic location of the horses.

The month of June 2009 was spent in the Brittany Triangle and Nemaiah Valley interacting with the local community, observing free-roaming horses and assisting in a grazing study through the University of Waterloo. This experience allowed for preliminary participant identification and personal observations of free-roaming horse behaviour and interaction.

The second objective; *to identify stakeholder interest pertaining to free-roaming horse management* was met through twenty-five semi-structured interviews. Interviews occurred during a four month field season commencing in early May 2009 and concluding in late August 2009. The complete interview schedule is located in Appendix A. The interview schedule was reviewed and approved by the University of Manitoba, Joint Faculty Research Ethics Board (JFREB) (Appendix B). The written consent form is located in Appendix C. The interviews utilized a narrative strategy described by Satterfield (2001), in order to elicit responses from participants. A narrative elicitation strategy allowed participants to express covert values that are difficult to assess using conventional approaches. Narrative elicitation allows participants to provide stories regarding their accounts of the past, present and future, within a certain context (Satterfield, 2001), in this case the free-roaming horses.

Numerous material probes, including walking, driving, horse riding and flying, were utilized in order to allow for a participant centered interview and encourage responses with minimal interference (DeLeon and Cohen, 2005). Stakeholders were varied with each having a different career and background. As a result of this the format of each interview differed depending on the interviewees comfort level, availability and interest. Some of the interviews were formal and some were informal in nature. Seventeen of the twenty-five interviews were recorded using a digital recording device. The other eight utilized a note taking methodology outlined by Bernard (2006). The interview schedule and guide were loose but all followed the main categories of background, assessed through the attached interview schedule, awareness and interaction, management and policy/interactions.

The third objective, *to assess historical and current, federal and provincial policy, related to free-roaming horse management in B.C.*, was met through a detailed document analysis focusing on Canadian wildlife policy surrounding management. Specifically the document analysis examined literature, archives and past policy pertaining to management of the free-roaming horses in the Chilcotin. Collection and analysis took place during the field season and after completion of fieldwork.

The fourth objective; *to recommend a strategy for best management practices*, took place upon completion of the previous objectives. Following the analysis of policy and stakeholder interests, a strategy for best management practices has been created which suits the interests of the stakeholders and the ecosystem.

On-site observations were made throughout the data collection process and were used to compliment all aspects of the research. Observations were recorded in a field journal following techniques outlined by Bernard (2006).

## **Data Analysis**

Data analysis was ongoing, performed with the literature and document analysis being used to inform the semi-structured interviews. Data was collected using field notes as well as a digital recorder. Photos were taken in order to compliment and document the data collected. Data analysis was an ongoing process which began as soon as the data collection began, in early May 2009. Field notes were reviewed and analysed on a daily basis with initial themes being identified and used to inform the ongoing study. Field note revision was used as a verification tool while in the field (Bernard, 2006).

Digital interview recordings were transcribed literally, with jargon being omitted to allow for flow. Patterns and themes were identified through coding of the data and were then used to develop categories and theories in order to interpret the data (Merriam, 1988). NVivo 8 (QSR) was utilized during the coding process in order to aid in storage and organization of the data. Analysis was performed through reduction and interpretation of the data in order to allow for the emergence of a broader picture (Creswell, 1994). Once identified, categories were recorded and sub-themes were identified within each category, allowing for a higher level analysis (Creswell, 1994). Flow charts were used to identify relationships between categories and sub-themes. Analysis was adaptive, category and sub-theme relationships were fed back into the coding process, allowing for the verification emergence of subsequent themes. Categories were used to create the framework from which the thesis has been written. Sub themes have been used as content within the framework. FOI information was used to supplement identified themes which informed management recommendations and form a thesis paper outlining stakeholder interests for the best management of free-roaming horses in the Chilcotin.



## **CHAPTER FOUR: HORSE INTERACTION AND MANAGEMENT**

Through analysis of interviews and personal observations two key themes emerged, interaction and management. Interaction was discussed in two ways within the interviews. First referring to the interaction between the free-roaming horses and the biophysical landscape and second how the free-roaming horses and the socioeconomic landscape interact. Stakeholders were asked to discuss historical, current and future management pertaining to the free-roaming horses. Management in this chapter is defined as interaction with the free-roaming horses that is framed by a set of predetermined management goals utilizing specific strategies. Management strategies can employ a multitude of techniques, tools and practices. This section has been structured based on themes, which arose through the analysis of collected data.

When dealing with a multifaceted and interdisciplinary issue, categorizing stakeholder groups is often discouraged. Stakeholder groups often overlap, for example, government employees can be ranchers or from First Nations and ranchers or First Nations community members can represent NGOs. Due to the wide amount of overlap among stakeholders, categorizing of groups is difficult and can often lead to unnecessary labelling and generalizations during data collection and analysis stages. Categories were utilized within this project only when stakeholders self labelled or when they presented themselves through the analysis. All stakeholders were asked questions using a similar interview schedule in order to allow for consistency in both data collection and analysis. All data was analysed using the same framework and themes were identified using all collected data.

Residents of this area are distinctively knowledgeable about the landscape and factors that affect or are affected by the landscape. Ranching has long been the primary economic driver

in the region resulting in residents being connected to the biophysical landscape. Ranchers must now deal with stricter range management regulations than in the past. Stricter regulations have resulted in ranchers also becoming increasingly involved with, and aware of, bureaucracy and policy.

Horses have been used within the region for hundreds of years. Historically the only form of transportation in the Chilcotin, horses represent a strong cultural symbol. Horses are engrained into the culture of the area making it difficult for stakeholders to gain the distance necessary to discuss their importance. For this reason an open narrative strategy was used in order to elicit information pertaining to the best management of free-roaming horses.

### **Biophysical Interaction**

This section will examine interactions free-roaming horses are having with the biophysical landscape. Participants commented on the horse's interaction with flora and fauna, but were especially interested in discussing the horse's interactions with predators and the range.

#### **Native Flora and Fauna**

There is little consensus among stakeholder groups regarding the interaction between free-roaming horses and native flora and fauna. Each group of stakeholders commented on these interactions in a different context, with some referring to a positive relationship and some referring to a negative one. The native flora and fauna interaction was discussed predominately by NGOs who have a specific interest in flora and fauna and by local range managers in the form of MOF and MOE.

According to the Area Supervisor with BC Parks and Protected Areas Division, MOE:

40% of the forage is supposed to be left for wildlife. There's about 0% in most places. Our perspective on things is that it's up to land managers to figure out where

they want the other 60%. Whether that's going to be cows or horses. I don't think we care a whole lot. That might change if there was some data that supports the fact that horse are feeding on vegetation that is directly impacting some particular species.

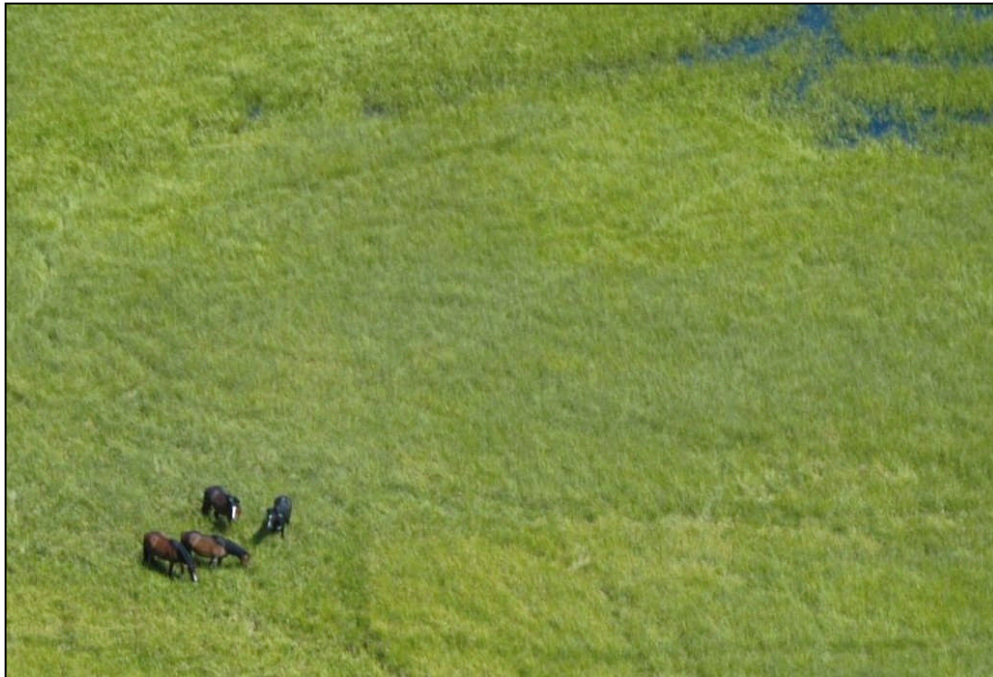
MOF commented on the variation in interactions by stating that “every little microclimate seems to respond differently.. I'm just trying to get a handle on the impacts the horses are having with the knowledge that it's just a snapshot at a moment in time”. The NCC stated that,

Within NCC there's a variety of opinions, there's a group of biologists that says these animals do not belong, they're not part of the native flora and fauna and so they shouldn't be there. Then there are others there who aren't necessarily taking that perspective and they think they are really cool. Horse lovers that would think they are just fine as long as they're not outcompeting or displacing native wildlife, it's more the romantic view of the Wild West. A lot of people still have that attitude.

The responses draw attention to the disconnect occurring not only between stakeholder groups but also within individual organizations.



**Figure 4.1: Grouse nest in a meadow, Brittany Triangle.**



**Figure 4.2: Free-roaming horses grazing in a marsh, Anaham Reserve.**

A representative of DUCs commented on the possibility of horses disturbing nesting bird habitat (Figure 4.1) and trampling wetland environments (Figure 4.2) including dams. In such instances it is impossible to tell whether disturbances are solely from free-roaming horses, cattle or the combined effect of both.

Among the ranchers and First Nations, there is a large knowledge base pertaining to the foraging habits of horses. Table 4.1 provides representative quotes pertaining to negative and positive interactions the horses are having with native flora and fauna. Some stakeholders commented that when the frost comes the horses begin to eat brush, which is moose pasture, while others stated that horses eat the shoots from marshes in the winter months and paw at snow to get to the meadow grasses below. Local knowledge is that caribou and moose rely on the same resources as horses although some stakeholders would say that moose have only been in the area

since the 1930s and therefore are not a native species and should not be counted as more important than the horses that have been here for hundreds of years.

**Table 4.1: Interactions with native flora and fauna, representative quotes.**

<b>Quotes</b>	
<b>Negative</b>	<ul style="list-style-type: none"> <li>• Too many of those horses though and its hard on wildlife. What will happen is it will rain and then freeze and they can't paw and then they start eating brush. Moose pasture.</li> <li>• Well other than the fact that you know these grasslands and little meadows there are in such terrible condition. You know things that would of lived there before when the grass was this tall, birds and all the little mammals and all that I would say definitely they're (the horses) probably impacting.</li> <li>• They would be thinking about wild horses but it would be a debate within the organization I'm sure and would probably end up with a few are ok they're kinda cool but too many is a problem because there are caribou and moose and other species that rely on the same resources.</li> </ul>
<b>Positive</b>	<ul style="list-style-type: none"> <li>• These horses were out there and they were constantly working at the edge of these meadows and they sort of made more grazing for the cows because they were out there.</li> <li>• If we only had more horses out there we'd have more grass you know and this is what people believe and heck they've been out there for 50 years, they'd probably know.</li> <li>• A lot of people blame the horses for bothering the riparian areas, it's not the horses it's the goddamn cattle.</li> <li>• The ranch where I spent most of my life working had a bunch of wild horses up top and the guy who bought the ranch shot them and then I was back a few years later and all the meadows had sloughed in and the trails had all sloughed in, because horses make trails and there was no water.</li> </ul>

Stakeholders also commented on the positive effects horses have had on the flora and fauna. Common knowledge within the area is that horses make trails through forested areas. The trails act as corridors for other wildlife such as bears, coyotes, moose and deer. Trails such as these are not observed in areas where horses are absent from the landscape. Horses are also known to graze at the edges of meadows, pushing back forest which would otherwise encroach.

Due to the large variation in vegetation and wildlife within the area, combined with the lack of research into the effects of free-roaming horses on native flora and fauna, most stakeholders including MOF, acknowledge that their perspectives are based more on anecdotal hearsay and personal observation than scientifically collected data.

### **Range**

Interactions between free-roaming horses and range presented as a separate theme from interactions between free-roaming horses and flora and fauna. Although range is considered flora and fauna, it is also an important aspect of the economic landscape in the region, making it unique. Ranching is the primary industry in the area making range health extremely important to a large proportion of stakeholders. When discussing the free-roaming horses, perceptions pertaining to interaction with range are varied and often times opposing.

Ranchers stated that their overall interest is to protect the health of their range and in doing so the health of cattle. According to the ranching demographic, free-roaming horses are on the landscape year round. Year round grazing is important to ranchers because using the range year round decreases the amount of forage available for cattle during the summer months (Figure 4.3). Horses represent a user on the range, as do cattle.

The fear amongst ranchers is that rising horse populations will put increased pressure on the range. One rancher commented, “if our range happens to be in better use, then we get more

horses”. The fear of overgrazing by horses does not diminish the respect that is evident when ranchers discuss the horses. One rancher commented that horses “make more grazing for the cows because they are out there”. Another stating, “one thing about the wild horses when they came they opened the country up because anywhere there was wild horses there was good ranch country because the horses would make trails from meadow to meadow”.

According to the MOF, free-roaming horse management is justified by the duty to manage the rangelands.

The reason we get involved is due to our management of the range lands. They’re an impact to the rangeland. As is anything out there. As is weather, as is cows you name it, there’s lots of things that impact rangelands, horses is one of them. Therefore the impact has to be dealt with by somebody.



**Figure 4.3: Example of overgrazed range, with visible horse dung, contributed to the presence of horses in the winter.**

Ranching is the primary industry in the Chilcotin but is not the primary industry for First Nations communities. First Nations in the area do have cattle but not even close to the number present on range outside of the reserves. Chief Joe Alphonse, of Tlet'incox (Anaham) First Nation, commented that,

There used to be a thousand horses around our area and there was a thousand cattle around there too and there was never any issues about overgrazing. That's a new term. Give it a couple of rainfalls on the ground and you're going to have a new bunch of grass coming back up.

According to Chief Alphonse horses don't impact range because they don't stay in one area like cattle do. His experience is that cattle are known to camp in one area until they are moved, where as horses in one area today will be gone by tomorrow.

Regardless of direct impacts, the interests of ranchers and members of the First Nations communities differ when it comes to the free-roaming horse's interaction with the range.

### **Predator/ Prey**

The predator/prey interaction was one of the most commonly mentioned and most complicated. Predator/prey interactions are too large of an issue to fully discuss within the context of this study but it is important to mention some of the associations with management of free-roaming horses. There are many perspectives regarding the interaction between predators and prey, in this case horses and cattle.

Representative quotes pertaining to free-roaming horse interactions with predators and prey include:

- If you wipe out all wild horses wolves are going to wipe out cattle, wolves go for colt not because it's easy to kill but because to a wolf its better meat.



- The horses are out there year round so the wolves have a year round supply then the cows come out and the calves are easy picking. There just seems to be more wolves, more horses more wolves.
- If it wasn't for those wild horses you couldn't put a cow out there. The wolves would wipe out the cow herd. They're picking on the horses is what they're doing, they're saving the cattle.
- Wolves prefer something that will run, an old cow will turn and fight, wolves don't want the weak and sick.

Next to competition for forage, the interaction of horses with predators was the most commented upon theme during data collection. It is a common perception that horses being on the landscape year round means that the wolves have a year round supply of prey. A year round supply of prey means that wolf numbers will increase and that wolves will stay in one location instead of moving around to find food. Spring calves represent easy prey and with more wolves on the landscape, more calves will be killed in the spring. This perspective relies on the idea that wolves prefer calves to horses, implying that once the calves are there in the spring wolves will switch from eating horses to eating calves. The opinion that wolves prefer horses to cattle was expressed a number of times during interviews. The other perspective is that without the horses cattle would not be able to survive on the open range.

It is evident from the data that most stakeholders in the area have an opinion about predator/prey interactions. It was common within interviews for a participant to comment on increasing horse numbers negatively affecting the range and on the negative impacts wolves are having on the horses. This disconnect indicates deep-rooted animal values which will be discussed further in Chapter Five.

It is impossible to separate perceptions of predator/prey relations based on stakeholder groups. This issue is more of an animal values one than it is a biophysical one. To date no formal

studies have been found on predator populations or prey preferences in the region. Many stakeholders indicated that predator numbers were increasing; at present the data is anecdotal.

### **Socioeconomic Interaction**

One of the first questions most participants asked during interviews was regarding my intentions with the research. Specifically they were interested in my feelings toward horses. This line of questioning regarding my interests allowed for the participants to then identify where they stood in terms of feelings toward horses. Regardless of stakeholder group, history or management interests, each participant expressed their sentiments toward horses, which would set the stage for the rest of the interview. The following examples have been chosen because they are representative of the sentiments expressed by a variety of stakeholders:

- I like horses but there's just too many.
- They're beautiful horses, you almost don't want to touch them, you just want to leave them there.
- They're hollering I guess Tsilos was listening. He's a sacred mountain. He got disturbed so he created storms, wind storms, hails, snow onto the newcomers and they all died. Only the horses lived, they scattered.
- The membership here is very very very sensitive, horses are very social animals and they're very majestic and people are very attached to them.

Although sentiments varied and were sometimes conflicted, it is evident that horses, both free-roaming and domestic, are highly respected in the area. With this said there are other factors which also play into the socioeconomic interaction of horses on the landscape. These connections will be presented in this section.

## **Domestic Stock**

Free-roaming horse interaction with domestic stock was a key theme discussed during interviews. Whether it is domestic cattle or domestic horses the relationship is very important in both a social and an economic context. First Nations communities in the area do have cattle but not on the same scale as the local ranchers, therefore interaction with cattle is more of an issue for ranchers than it is with First Nations. The idea of horses interacting with cattle only came up in First Nations interviews when discussing the ranchers and their interests. The rancher's perspective regarding this interaction was discussed in the section pertaining to range; therefore, this section will predominately focus on the free-roaming horse's interaction with domestic horses.

The discussion regarding interaction with domestic horses followed two main lines. First were comments pertaining to the mixing of domestic and free-roaming stock and second was regarding the transmission of disease between the two.

The mixing of domestic and free-roaming horses is a very common occurrence within the area. Most stakeholders had at least one story about a horse that 'got away' or was 'let go'. First Nations residents spoke of this occurrence in both a historical and current perspective whereas ranchers commented on historical but not current accounts. Ranchers tended to put more emphasis on interaction with cattle.

One participant commented about a horse she recently saw with a free-roaming band by saying,

Well I lost, well didn't really lose her. I let her go a couple of years ago, she was just a yearling and I branded her and thought I would let her graze and grow and whatever and I never seen her for two years and finally last fall I seen her up in a meadow with a wild bunch, with a colt.

This statement is indicative of a common current practice among First Nations and a historical practice among both First Nations and ranchers. The practice involves turning horses loose on the range for the summer months and rounding them up for the winter. Local accounts also centre on studs that enter into domestic stock and take out mares and geldings. According to these narratives, the geldings will find their way home but the mares will join the free-roaming horse bands.

A common generalization in the area is that First Nations lands tend to have a lot of horses (Figure 4.4). Reasons for this range from the escape of horses out at summer pasture, elders passing away and their horses being released to the practice of supplementing the free-roaming bands in order to enhance the stock. It is important to note that this relationship is not unidirectional. Sometimes the flow of horses goes the other direction, “when horses are moved or brought in to pasture closer in the winter sometimes a wild one will be in the bunch”.

Disease transmission was not as dominant of an issue as was predicted when research was proposed. Disease transmission was mentioned by approximately 60% of participants but in most cases the reference was made to the possibility of transmission and not the knowledge of actual occurrence. One rancher commented on a government employee testing horses that had been rounded up for a disease called swamp fever, and insisting that any positive cases be put down. Another stakeholder commented that the only time disease transmission was ever an issue was when the horse buyers came into town, indicating that most horses were caught for personal use or trade and therefore people in the local area were not concerned about it. The overall impression from stakeholders is that disease transmission is something that people from outside the area worry about and that it is not much of an issue to local residents.



**Figure 4.4: Horses roaming free, Anaham Reserve.**

### **Role on the Landscape**

During interviews, stakeholders were asked to comment on the cost and benefits of having free-roaming horses on the landscape. From this line of questioning some key themes emerged including the historical and current use of horses, the quality of stock currently present on the landscape as well as interests in terms of using the horses as a resource for the future.

Representative quotes pertaining to free-roaming horse's role on the landscape include:

- In the 1960s, when we got here, there was no choice but to use horses there were no quads or trucks.
- Well that's how people obtained horses (from free-roaming horse bands), just catching em. And the thing is you go out there and catch a three or four year old horse and break him and if he's no good you sell him and go catch another one. If you raise him then you're stuck with the son of a gun, if he's no good then you got \$500 or \$600 in raising him. Those horses you got nothing in em but catching them.

- They're good to chase horses with. They know which way they're going, just let em go. They're born in the bush.
- Wild horses are the toughest horses you can buy. Say you went to Vancouver and buy a Thoroughbred that was born and raised there and you bring it here, it's not going to last at all. And you bring these guys somewhere like that and they'll live forever.
- People trade horses quite a bit. Lots of times you take a guy out who will catch a couple horses and break them and they will trade you those two broke horses for four unbroken horses and there's guys who build up horses doing that and then you sell. You know you catch horses like that. I know people who trade two saddle horses for a team of horses. Horse traders. They say there's no such thing as an honest horse trader, but that old fella I said I was doing with those mares, he was honest. Unless you tried to cheat him, and then.

Historically both ranchers and First Nations used horses as a resource. Horse use was widespread and pervasive. Horses on the landscape were viewed as an economic resource, used as a source of saddle horse, packhorse or a meat commodity, shipped to slaughter when times were tough. There was a strong tradition of trading and giving horses as gifts. Chief Ivor Myers commented that “they (Stone community members) use them (horses) for personal use and sometimes if they catch them they sell them”. Using horses from the local landscape meant that those horses were born and bred on that landscape. They not only knew the area, but were also accustomed to the climate and terrain, invaluable traits to those who relied on horses for not only their livelihood but also their survival in a location with such limited access.

Horses from the local landscape are viewed as, “the toughest horses you can get”. Free-roaming horse existence on the landscape indicated to the stakeholders that they were survivors. Being tough enough to survive meant that they were surefooted and intelligent. The horses also represented a direct and indirect source of income, not only did they represent a resource for personal use but could also be used as a source of income during a time when it was not feasible or beneficial to bring horses in from other areas.

Reliance on horses has dropped significantly in recent years due in part to increased mechanization and access into the region. This decrease in overall horse use has affected interest in the free-roaming horses and their usefulness to the local population. As one stakeholder commented, “there’s no one using horses anymore, they’ve got ATV’s”. It is now economically and logistically possible to import horses from other areas. According to ranchers rounding up and training a horse from the free-roaming stock is not worth the time and effort when it is “easier to go out and buy one”. This perspective combined with decreased reliance and low market prices has resulted in the usefulness of horses on the landscape dropping significantly in recent years.

Historically First Nations and ranchers used free-roaming horses as a resource. Use of free-roaming horses by the ranching demographic is now almost nonexistent. Of the three First Nations communities interviewed, all three still view the horses as a useful resource. According to Chief Joe Alphonse,

A lot of our members are very protective; you know it’s a resource, a resource that people have depended on for travel. It’s a resource today in tough economic times, you sell your two or three saddle horses that you have and you know that it’s not a big deal because you go back in our back area and get two or three more wild horses and train them. Maybe in two or three year’s time if you’re in a financial pinch again you can sell again. There’s always fresh stock out there.

Chief Ivor Myers of Yunesit’in First Nation, also still sees that there is value in the horses, “if you get a good one that’s a good size and you can make a good horse out of them”. Chief Ivor still views the horses as a resource for both personal use and as a source of income. Chief Ervin Charleyboy of Tsi Del Del First Nation commented on the changing economic structure of the area. He commented that a local mill, which used to be in the area had provided employment for some of the local First Nation population. The presence of the mill meant that local individuals

had to hold onto set hours, further decreasing both their reliance on, and ability to utilize the horse. With the mill closure Chief Ervin says that he is “seeing young people getting back into horses” (Figure 4.5).

The nature of free-roaming horse use has changed over time. Horses have represented and still do represent a resource on the landscape. The value and use of this resource is unique and dependent upon localized economic, social and political factors.



**Figure 4.5: Barrel racing at the 32nd annual Tsil?os Rodeo and Mountain Race, Nemaiah Valley.**



## **Non-Local Stakeholders**

The classification of non-local stakeholders includes not only people residing outside of the region but also NGOs which include environmental groups and media. Attention to the issue from non-local stakeholders has had a huge effect on local interests and sentiments. In interviews ranchers referred to NGOs as conservationists and environmentalists. The following quotes came from interviews with ranchers, who were the dominant group to discuss this interaction,

- The environmental people they have to have a say in everything we do.
- We've had in the past people come in and usually from a conservational pro-horse point of view and that gets people backs up.
- If you were to just spread the word that you found fifty dead horses out there, do you know how many people would be here from around the world, in a flash? But if you said there were fifty more horses on the range nobody even wants to know you.
- These people get all these brilliant ideas, they live down on Gerard St. (Victoria) somewhere in a high-rise and they get all these plans and they don't live here.
- The government tried that there for a while too. Bring outsiders in to none of their damn business.

These statements express the distrustful and defensive attitude ranchers have toward non-local interaction.

NGO presence in the area has been outlined in Table 4.2. This table outlines the NGOs who are stakeholders within this specific research area, indicating their mandate and any direct interest they have pertaining to the free-roaming horses in this area.

**Table 4.2: NGOs present in the area**

<b>Organization</b>	<b>Mandate</b>	<b>Goals in Region</b>	<b>Scale</b>
<b>Friends of Nemaiah Valley</b>	Environmental organization, trying to prevent human activity from degrading the environment in any way. Promoting and sponsoring the preservation and protection of the lands delineated by the Nemaiah Aboriginal Wilderness Preserve of the Tsilhqot'in People of Xen, including the Nemaiah Valley, Chilko Lake, the Brittany Triangle and the surrounding region.	Work closely with the First Nations communities with regard to free roaming and wild horses although regrettably have little communication with ranchers outside the Nemaiah Valley and the Brittany	Local
<b>Ducks Unlimited Canada</b>	Dedicated to the perpetuation of waterfowl through the conservation of wetland ecosystems and associated habitats (Ducks Unlimited Canada, 2009).	No official interest pertaining to free-roaming horses but are interested in potential impacts of horses on nesting bird habitat and wetland health.	International (with Regional branch)
<b>Nature Conservancy of Canada</b>	National charity dedicated to preserving ecologically significant natural areas through. (Nature Conservancy of Canada, 2009)	Will have to deal with free roaming horses if land is acquired and horses are present on it. Interests within organization are torn between those who do not see the horses as native wildlife and those who think they are fine as long as they are not outcompeting or displacing native wildlife.	International (with Regional branch)
<b>Canadian Horse Defence Coalition</b>	Horse protection through the elimination of horse slaughter in Canada as well as the export of horses for the same purpose.	We would like the horses to remain free-roaming and not to be caught or harmed.	National

## **Management**

Stakeholders discussed historical and current management practices as well as being asked to comment on what ideal management would look like to them. This section will present the results of this line of discussion through an examination of historical and current management practices, range management and recommended strategies.

### **Historical**

Free-roaming horse management in a historical context was expressed during every interview conducted with stakeholders. Ranchers and First Nations had very detailed accounts and stories pertaining to historical management. NGOs and government commented on what they had heard or participated in but overall it was the ranchers and First Nations who had the most input into this section. The quotes below were selected from a range of interviews and were chosen as representative opinions in order to illustrate what historical management looked like in the Chilcotin.

- In the old days the Indians had lots of horses they used them for ranching and transportation and then they had so many horses they didn't have the feed so they turned them out in the winter, and some came back and some didn't.
- In the early 50s or late 40s. At that time all the ranchers had to have horses for all of their ranch work, they used horses instead of machines so everyone had a lot of horses, 100 head on a ranch wasn't uncommon.
- We're out there and often times if a nice Stallion was obtained they would be released into the wild to introduce that blood into our horse herd.
- Mind you we up bred them a little (the free-roaming horses) because we used to turn thoroughbred studs loose. It's actually a cheap way of obtaining horses. You turn a good stud loose and three or four years later you go and get the colts. You don't have to raise them, you don't have to keep the studs, and you don't have to feed the mares. You're always getting the strong ones. The strong ones survive and that's what you get. Sounds to me like a good situation.

Historically free-roaming horses represented an economic resource for ranchers and First

Nations. Ranchers would manage their own individual range. If free-roaming horse numbers were deemed too high, roundups would occur. According to ranchers, free-roaming horses rounded up were gelded and released, kept for personal stock, shipped for meat or released so that they could keep quality genes in the free-roaming bands. Management at this time depended on what was on an individual's range and what was required for personal use.

First Nations communities had a similar mindset when it came to free-roaming horses. Free-roaming horses were viewed as an economic resource for the membership; as well, they held many cultural and spiritual connections. Ranchers and First Nations had a shared knowledge pertaining to horse chasing and rounding up. Corrals are still present on the landscape and many ranchers and First Nations can give detailed descriptions of how to utilize these tools (Figure 4.6). To date no formal studies have been conducted into the historical significance of free-roaming horses in the Chilcotin.



**Figure 4.6: Old wing corral near Stone Reserve.**

**Table 4.3: Historical management representative quotes.**

<b>Quotes</b>	
<b>First Nations</b>	<ul style="list-style-type: none"> <li>• You know this forestry department. They enact a policy, guidelines, or whatever. To kill off a lot of these wild horses, they're the ones that gave first nations some information, a bounty on each of the horses. You have to cut off their ear and give it to them. That's how they pay. And to this day they still want to destroy all the wild horses out in our country.</li> <li>• They brought in riders from outside the area to come in and chase, and our membership, in the past weren't allowed to do a lot of things. But today it's a different story, today our membership, our voice needs to be heard. Today if anybody tries to do that our membership won't be intimidated. Stand in front of a freight truck and tell them release those horses or whatever. In the past our membership weren't allowed to do that stuff they were immediately shackled and thrown in jail.</li> </ul>
<b>Rancher</b>	<ul style="list-style-type: none"> <li>• My grandfather, who's been dead for twenty something years, he made a living during depression years. It was a way to make money, by hunting wild horses. Government made money for every set of ears. He hated it because he was a horse person. He had to shoot them and it was a way and it's only the last twenty years or so that they haven't been rounded up.</li> <li>• The way they did things twenty years ago, maybe there were things wrong, it was the ranchers approach to a lot of things but at the same time we didn't have a lot of the problems that we have now but we can't do anything about that either. We have to accept the fact that we are in the time we are in and we have to move forward. We can't go back. We have to keep thinking about how we are going to do it.</li> </ul>
<b>NGOs</b>	<ul style="list-style-type: none"> <li>• There has been no recognition of these animals as a legitimate species of wildlife and as a consequence they have been mistreated and marginalized as vermin by government policy over the years.</li> <li>• I certainly don't have any issue with the cull program and roundups that they used to do in the past</li> </ul>

Comments regarding historical policy pertaining to free-roaming horse management were more plentiful than comments regarding on-site historical management. The opinions expressed regarding management policy were varied and can be classified based on stakeholder group. Table 4.3 gives representative quotes from First Nations, Ranchers and NGOs. Government quotes are omitted from this table due to the fact that literature pertaining to governments role in historical horse management was collected from the FOI and presented in detail in Chapter Three.

Representative quotes represent the variety of opinions and perceptions regarding historical management policy. Given the scope of this research project, it is impossible to gain a full understanding of opinions and perceptions pertaining to historical free-roaming horse management policy. From quotes such as those in Table 4.3, it is evident that opinions are varied. Stakeholders frequently commented on the HCP with sorrow. The economic incentive the program offered was hard to overlook during difficult economic times, but killing horses for economic gain went against an inherent respect for the horses.

Chasing and rounding up horses is also something that has long been seen as not only a part of the local economy but also a local pastime. Although many stakeholders commented negatively about the bounty, rounding up and chasing horses was viewed as an important and exciting activity within the local culture. The idea of not wanting to shoot horses for a bounty was not connected to the idea of not wanting to remove individual horses from the landscape. Often times the same individuals who commented on not wanting to kill horses also expressed pleasure when recounting times they had chased and rounded up horses. One elder commented that “only wild horses will get me away from what I’m doing, even the table eating, even the

hockey game” in the same conversation it was stated that “I like horses myself and don’t want to shoot em”.

The MOF responded that :

No current projects specifically concerning feral horses are under way in the Chilcotin Forest District. There is, however, ongoing work related to building relationships with First Nations communities in the context of ranching and range management. As well, in the spring of 2009, intensive aerial flights were conducted in order to assess horse population numbers.

### **Current**

There has been no formal government policy regarding management of free-roaming horses since the end of the Horse Control Program in the late 1980s. Some stakeholders commented on a round up, instigated by the MOF in 2007, which according to residents in the area was very expensive and did not remove many horses from the landscape. Attempts to obtain information from the MOF, regarding this roundup, have not resulted in any information being produced.

Any current horse management occurring on the landscape is the result of the initiative of stakeholders and even this is difficult to assess due to the conflicting perceptions of all stakeholder groups involved. Mostly First Nations residents commented on catching and breaking horses to sell or keep. Chief Joe commented specifically on introducing domestic stock to the free-roaming horse bands.

I think our membership like the idea that maybe introducing years gone by Thoroughbred horses were purchased and released. I believe lately more often our membership here at Anaham to bring in heavy horses, Percherons Clydesdales whatever throw them into the herd and um if you’re raising part team horse part Mustang horse they’re a little easier to round up then part Mustang part Thoroughbred horse.

The statement indicates a strong knowledge of horses and that First Nations communities in the area are still actively involved in managing the free-roaming horse bands. When asked about this form of management the MOF commented that:

Its dropped off completely (chasing and rounding up) other than the odd person going out and rounding some up for their own personal use, but as far as somebody rounding some up to ship somewhere or to sell at the sale, you know I don't hear of it happening.

It is evident that the practice of managing free-roaming stock is still occurring even if it is on a much smaller scale than was historically the case.

When asked why stakeholders think horse chasing and rounding up has decreased, a number of reasons were presented. Reasons included:

- lack of skills present among the local population because they weren't taught by the older generations
- people are busier with increased pressure and need to work a day job
- the economy is down, therefore:
  1. there is a decreased market for horses
  2. ranchers do not employ as many range riders to move cattle resulting in less horses being used by the local population
- technology has increased accessibility
- use of pack horses is no longer essential



**Table 4.4: Ideal management goals.**

<b>Quotes</b>	
<b>First Nations</b>	<ul style="list-style-type: none"> <li>• Let them roam free.. fence off the range to be able to manage some of the horses. Especially if you want a saddle horse, because of that we are unable to complete building the fence for the range. It is very frustrating, this is our one country.</li> <li>• Thinned out for numbers and for, can't get em to multiply too much because they'll be hard on the range. Right now too many studs out there and all kind of ugly looking horses, hammerheads.</li> <li>• Here in Anaham we want an area that's designated specifically for these horses, we don't want to put cattle on there we just want it for these horses and we don't want to see anybody on that area, but outside that area they can do whatever they please and I think that's a pretty happy compromise.</li> </ul>
<b>Rancher</b>	<ul style="list-style-type: none"> <li>• I think we should have a cull. The best way to do that is you know hire some sharpshooters or some veterinarians or something and go out there and get rid of some of the animals and then you could round up some of the babies and they could be trained.</li> <li>• I'm not against having some horses out there but after awhile they get out of control.</li> <li>• Well I think they should be rounded up. Bunches here and there but maybe get rid of the studs that are there and put a good one with them.</li> </ul>
<b>NGOs</b>	<ul style="list-style-type: none"> <li>• Protection of habitat for the horses and allowing them to remain free-ranging; they need to be recognized as protected under the B.C. Wildlife Act</li> <li>• The goal would be to have wild horse recognized as a legitimate species and maintained in numbers commensurate with good range management. We recognize that in some cases culling will be necessary if we are to accommodate all interests. We will insist that it be done in as humane a manner as possible. Primarily the First Nations would be responsible for horse management.</li> </ul>
<b>Government</b>	<ul style="list-style-type: none"> <li>• At the (management) table should be the people like the First Nations, the ranchers, government that would be the Forest Service.</li> <li>• I mean I don't, what we're doing is not, well we're not doing anything and to me that's not working. And um you know we've got a business, you know the business of ranching is mine to advocate for and all that sort of stuff so I mean my take would be to get the horses off the range.</li> <li>• Bottom line is cattle you can manage, feral horses no. If they like a particular area, they're going to be in there and to try to drive them out maybe there is something you can do but I don't think there is anything you can do but fencing.</li> <li>• You could come up with a recommendation on how to manage these things it might make some more sense to try and subdivide it in a way that we can control them a little more. We've got to recognize them as a range user. Forestry doesn't recognize them, they're not wildlife they're not domestic. So what are they? They're a range user.</li> </ul>

When questioned about historical and current management policies related to free-roaming horses the regional MOF commented on the focal shift management has taken:

Here (Alexis Creek Forest Service) we haven't made the decision to manage for horses we've been trying to manage for cows for years and then you have another species that moves, well not moves they probably have been there off and on for years too but now that the numbers are getting to be quite a few the land won't handle those.

MOF also commented on the ongoing TNG Rights and Title case:

Who knows if you're supposed to take what the judge says and apply it to the entire Chilcotin. That's what he said in between the lines and since its all being appealed we don't abide by any of it or care or whatever? Its a big grey area and we don't want to offend anybody or hurt anybodies feeling or step on anybody's toes or do anything we know we shouldn't be doing but at the same time we feel they're causing damage out there so we feel obligated to do something.

The statement highlights both the lack of legislation regarding what to do and what not to do with the horses. Confusion surrounding legislation, or lack thereof, has been compounded by the TNG rights and title case. The majority of stakeholders commented on the need for rights and title clarification before any decisions can be made regarding the free-roaming horses.

### **Ideal Management**

Stakeholders were asked to comment on the ideal management goals. Table 4.4 presents representative quotes from each stakeholder group pertaining to ideal management of the free-roaming horses.

It is evident though examination of these quotes that management goals, and therefore strategies and practices, differ amongst stakeholder groups.

### **Range Management**

The theme of range management was one that was brought up by all stakeholders in all interviews. This is not surprising given that historically the horses were classified under range legislation and that within this area the majority of land, apart from reserve land, is Crown

Range. According to ranchers the issue with the horses is a range issue because the horses are one of many users on the range. MOF involvement is based on the idea that free-roaming horses are often on rangelands, which are under the jurisdiction of the provincial government and therefore the MOF. The MOF commented that they are:

Caught in the middle juggling what's there (on the range) without any real legal mandate other than range lands. So from that perspective it's been tough. They don't quite fit anywhere so that's where we were struggling a little bit. There an impact on the range land, we're trying to manage them I mean we manage lots of things so.

Reserve land is managed at a local government scale determined by the local chief and council, therefore, although First Nations are undoubtedly impacted by range management decisions they are not commonly referred to when discussing Crown range policies.

Stakeholder comments regarding range can be loosely classed into three categories. These categories are comments regarding range practices, on both a local and government scale, comments regarding quality of the range and the relationship between forest and range practices. Table 4.5 illustrates representative quotes regarding these three categories. These quotes are predominately from ranchers, MOF and MOE.

The relationship between forestry practices and range management is an important one in the region. According to the Area Supervisor, BC Parks, clear cuts change the amount of range that is available but range management has not taken this into account when creating policy. As clear-cuts grow the amount of available range decreases, but cattle and horse numbers do not. This puts increased pressure onto the remaining range. Growth of clear-cuts can also alter the perception of horse numbers. With less available rangelands for grazing, horse numbers can seem more abundant when in reality the same number of horses are grazing less land. An examination of Table 4.5 indicates that overall range quality in the Chilcotin is poor as a result of

numerous factors including initial conditions, fluctuations in the economy, drought and poor management practices. According to these quotes appropriate range management is not practiced but this is exacerbated by the presence of free-roaming horses on the landscape.

**Table 4.5: Range management representative quotes.**

<b>Quotes</b>	
<b>Range Practices</b>	<ul style="list-style-type: none"> <li>• Ranchers don't move cattle as much as used to, everything costs so much more now. It's hard to find somebody who's going to live for nothing and live out there with the cows and move them. So I would say generally less management is occurring just because people can't afford it like they used to.</li> <li>• Range practices out here are horrendous they really are. Chilcotin is the worst range management practices ever, what makes that even more interesting is that now with the price of beef down basically most of the ranchers are at minimal number of cattle right now. When you see the impact, and it's a little bit offset by the dry conditions we've had.</li> <li>• There's an industry here (ranching) that in general terms is already fairly badly managed and then you get a bunch of horses in there, everyone talks about the larger ungulates. This access has allowed a lot of animals to be shot.</li> </ul>
<b>Range Quality</b>	<ul style="list-style-type: none"> <li>• We looked at some range the other day and it looked awful, and you think is that the result of the cattle that are there now or has it been like that for a hundred years. I mean it needs a complete rest in order to recover. So is it past abuse that's causing it to look the way it is or is it present use? It's hard to say what goes on. A lot of it I attribute to past use. Maybe I'm just biased trying not to say it's what's going on now.</li> <li>• This is crappy ranching country. Like the number of hectares that you have to have per animal on crown range is insane...I'm sure some original pioneers when they came out they staked out some swamp lands and said ya we can make a go out here, but its expanding now to where there's cattle everywhere, there really is.</li> </ul>
<b>Range/Forestry Relationship</b>	<ul style="list-style-type: none"> <li>• In some cases I would say the cattle numbers could of increased because of the cut-blocks. You have all this new grass out there we can let you run more cows. But maybe the cattle just expanded into a larger area because of the logging and now we're contracting because that logging there took place twenty five years ago, most of it.</li> <li>• After you clear cut there's more forage on most of the blocks, depending on what comes in, but then after about fifteen years there's no forage pretty much.</li> </ul>

## **CHAPTER FIVE: DISCUSSION**

### **Relevance on the Landscape**

Before the HCP, management of free-roaming horses within the study area took place at a ranch and community level. Research indicates that management goals, strategies and practices were decided upon by local people. Shared knowledge was utilized to assess free-roaming horse interactions and management. On the landscape, the free-roaming horses were considered a useful resource. With the onset of the HCP decision-making power transferred from the local community level to resource managers, in the form of the MOF. As was a common theme in Canada during the late 1960's and early 1970's, resource managers believed that due to the variation in societal interests, decision-making was their legal responsibility (Dearden and Mitchell, 2005). According to this belief, providing the public with decision-making power was viewed by public agencies as dangerous (Dearden and Mitchell, 2005). Increased dissatisfaction with this form of management process and methods, lead to significant changes within NRE during the 1980's (Dearden and Mitchell, 2005). One of the biggest challenges facing public land managers today is managing in a way that is responsive to the changes occurring in the social environment (Bengston, 2000).

Shared knowledge is still present in the area. In the past horses were a pivotal mode of transportation during a time when access was limited. Data from this study indicates that the number of people using horses in everyday life has decreased significantly with the arrival of technology, roads and mechanization. In the past horses were used within the study area in order to navigate the rugged terrain, whereas today local people have ATVs, cars and increased access due to roads. Free-roaming horses represented an inexpensive resource, used historically by both ranchers and First Nations. Utilizing numerous management practices, such as rounding up and

snaring, specific horses were be removed from the range and used as saddle stock, pack stock as well as equity for both trade and sale. Although some individuals indicate that younger generations are getting back into riding, this increase still puts horse use well below where it has been in the past.

With an increase in technology and mechanization, the need for horses in everyday life has decreased over the last century (Hayes, 2007). Ranchers are not hiring as many range riders to monitor cattle. As a result, cattle are not being moved around as frequently resulting in cattle staying on one area of range for longer periods of time. Cattle not being moved and therefore staying in one area ads increased pressure on the range. Historically range riders preferred to use free-roaming stock because of their sure-footed nature in the unique terrain. Due to the decrease in range riders, the number of free-roaming horses removed from the range and used as pack and saddle stock has decreased.

The goal of range management policy, which the free-roaming horses were managed under until the end of the HCP in the 1980s, has been to sustain socioeconomic factors through cattle ranching. Range management policy focuses on cattle not horses although existing literature and data from this research indicate that mixed grazing can increase biodiversity on public rangelands (Loucougaray et al., 2004, p.71) and that the presence of horses on the range can have positive effects on the resources used by cattle (Kuiters and Slim, 2003). This research demonstrates that economic constraints and a desire to promote the cattle industry, has limited government range officers from exploring all possibilities related to the interactions between cattle, horses and their effects on the biophysical and socioeconomic landscapes.

Data from this study indicates that political and environmental responsibilities, faced by both ranchers and First Nations, have resulted in more time spent on bureaucratic responsibilities

and less time spent directly managing the landscape. Most ranchers are finding that more land and more cattle are needed to make the same amount of money, a fact that could also be having negative impacts on range health and productivity. First Nations communities have use for horses but use has fluctuated over the years. As Chief Ervin Charleyboy pointed out, the presence of a mill in the local area pulled people off the land and into full time jobs with rigid work hours, a lifestyle not conducive to chasing and rounding up horses. With the closure of the mill, local people are getting back into horses, with renewed interest from young people in the area. According to one participant, “there have always been horses and cattle on the range but what’s changing is how they are managed and how they are used”.

Free-roaming horses are being blamed for other issues within the area, including increased pressure from cattle not being moved, less horses being rounded up to be utilized by range riders, a government policy managing for cattle and not horses or overall range health and changing economic factors. Existing literature shows that horses are more opportunistic grazers than cattle. Horses and cattle may not compete during times of abundance, but are more likely to compete in times of scarcity (Hayes, 2007). Data shows that poor range practices, hard economic times and years of drought have lead to scarce range conditions within the study area.

Management of free-roaming horses is linked to economic, social, cultural, political and environmental factors (Linklater et al., 2002). Data from this research indicates that over the years, these factors have been deemed more or less important and have had varying influence on management goals and decisions. In the past, management decisions were made by government officials with very little input from the local population. There are a number of issues at play on the landscape that cannot be excluded from the discourse regarding free-roaming horse management. These issues include, but are not limited to, mixed grazing between cattle and



horses, poor range conditions and practices and decreased economy. Ranching is the largest economic industry in the study area, climate, range conditions and the economy are impossible to control and range practices are the topic of much scrutiny. Horses are the only aspect, which can be controlled making them the easiest target, and therefore a target for the majority of blame. Stakeholders are using the horses to express how they feel about other factors present on the socioeconomic and biophysical landscapes.

### **Perceptions, Attitudes and Values**

Differing perceptions, attitudes and values (PAVs) affect how individuals understand and interpret information. From a management perspective, PAVs can influence goals and objectives, governments and NGOs. It is important to recognize and work within PAVs in order to avoid biases and generalizations (Hanna and Slocombe, 2007). Wildlife often reflects a range of values held by society. Wildlife can represent both a cost and a benefit to agriculture and forestry, protection of people, protection from people and protection by people (Forbes, 2004). Within the Chilcotin, there are deep-rooted PAVs pertaining to free-roaming horses, which cannot be overlooked when making management decisions.

When performing multi-stakeholder research within a small population, individual opinions and motivation often overlap with those of the collective. Not only do individuals have their own perceptions and opinions, with their own motivations and objectives, but they also have perceptions of other people within the community. Perceptions are very powerful, they can feed generalizations, which in turn go on to inform decisions and can eventually prohibit communication from progressing. Perceptions, occupation and social identity can have an effect on tolerance (Stronen et al., 2007). In the case of free-roaming horses in the study area,

perceptions regarding other stakeholder group interests are feeding miscommunication and stereotypes regarding best management practices. What one stakeholder thinks they know about another is having an effect on management because individual perceptions ultimately inform decisions regarding management.

The main issues commented upon during interviews were how the individual felt toward free-roaming horses, predators and comments regarding the bounty program. Data from this research indicated that stakeholders have varying opinions on the effects horses are having on the biophysical landscape. In 1977 District Range Manager, L.W. Resh issued a memorandum outlining justifications for horse control. Many of these justifications are very similar to those heard during interviews for this research. It is unclear whether the justifications heard during interviews are a result of personal observation on the part of the individual or if they are justifications given to stakeholders by the MOF during the HCP. What is clear is that local stakeholders are using similar terminology to that used by Resh in the 1977 memorandum. It is also clear that as of March 2010 no studies were found pertaining to the effects free-roaming horses are having on the biophysical landscape. If public land managers are going to work collaboratively with diverse groups of stakeholders, they are going to need to understand environmental values (Bengston, 2000). Government administrators who are accurately able to assess stakeholder PAVs are better equipped to deal with wildlife issues. Miscommunication will lead to policies based on one-sided and incorrect information (Satiel and Irby, 1998).

According to data collected, a persistent perception was that the presence of horses on the range is drawing in wolves, which are then targeting cattle in the summer months. Those individuals who also thought that wolves were acting as a natural control and keeping horse numbers in check, also held this view. Two opinions, which seem contradictory, can help to

illustrate how deeply engrained the cultural aversion to wolves really is. According to Bengston (2000), “systems of environmental attitudes, beliefs and values tend to be robust structures that are resistant to change”, this is important because it “helps to show why merely ‘educating the public’ about wildlife management is unlikely to produce desired results” (p. 128). Management decisions need to account for PAVs within the local community.

The other strong PAV present in the area was regarding historical management policies, more specifically the HCP or bounty program. Almost every interviewee commented in some way, negative or positive, about the bounty program. In reality only a handful of permits were issued each year and usually to the same few people. Although interview analysis would have indicated that most local people had participated, a subsequent document review illustrates that this is not the case. Stakeholders are very aware of the program, although in reality only a few people actually participated first hand. Permits were issued on a seasonal basis and usually to the same people year after year. Between 1966 and 1978, the average number of horses disposed of was only 35 with a few years having no horses and one year having 174.

Disposed horses does not account for all the horses removed from the range for trading or personal use but this number is much lower than the impression of an all pervasive shoot history. Although the extent is unknown, it is obvious that the media has had a large role in drawing attention to the HCP. Media attention tends to, “reinforces the public’s well-documented tendency to overestimate sudden and violent risks and underestimate chronic ones” (Hessing et al., 2005, p. 131). This relationship no doubt has fed local and non-local perceptions of historical horse management policies and practices. It is also possible that free-roaming horses provide stakeholders a scapegoat used to express sentiments toward each other. With so many controversial factors (social, economic, political, environmental etc.) present on the landscape,

the horses could be used to represent what people think of each other. Using the horses to express sentiments regarding other factors is important because it reinforces the importance of examining wildlife management issues within the context of the broader issue and not examining only one aspect (Linklater, 2002; Nimmo et al., 2007).

Individuals attitudes regarding a specific management practice, such as hunting, trapping or bounties, cannot be altered by simply changing an individual's beliefs about that practice (Nimmo et al., 2007). Management practices need to stem from the community in which they take place in order to be effective. Discourse and deliberation spur the expression of PAVs which are essential to successful management (Bengston, 2000).

### **Implications for Management**

Data from this study found that currently an antiquated policy is in place for the management of free-roaming horses in the study site. The current policy does not have clear management goals and has not kept pace with current societal values. Since the end of the HCP in the 1980s, free-roaming horses have not been classified as either livestock or wildlife under provincial or federal legislation. Lack of classification has had various implications for management, including the absence of clear jurisdiction, lack of funding and miscommunication between stakeholder groups.

Pressure from outside influential actors, the TNG rights and title case and poor range conditions all make the issue more complex. Conflict is not always a negative in NRE management. According to Dearden and Mitchell (2005) "the basic differences among people and their values, interests, needs, and activities create conflict. Such differences can be exacerbated by different factors." (p.175). Conflict can act as a way to identify areas of a system

that are not functioning properly. If dealt with constructively, conflict can lead to improved communication and clarification of differences (Dearden and Mitchell, 2005). Conflict can also be negative if it is ignored and used to feed biases (Dearden and Mitchell, 2005). In relation to the horses in the Brittany Triangle, conflict has prompted action against conventional resource activity, which threatened the horses and the cultural significance they hold to the Xeni Gwet'in (Xeni Gwet'in, 1993). Conflict in the Brittany Triangle has led to the creation of the Elegesiqiyus Wild Horse Preserve (Findlay, 2005) and a detailed policy plan (Xeni Gwet'in, 1993).

The Xeni Gwet'in have decided upon custodial management, with a management goal of protecting the free-roaming horses within their territory. The management strategy enacted by the Xeni Gwet'in included the creation of the Aboriginal Wilderness Preserve (1989) and the Elegesiqiyus Wild Horse Preserve (2002) (FONV, 2009). Brittany Triangle horses undeniably exhibit wild behaviour and are adopted by the local people as a symbol of their culture and ongoing land and title case. Isolation, lack of cattle and people and the creation of Nuntsi Provincial Park, has allowed the Brittany Triangle horses to flourish in their natural environment. The landscape outside of the Brittany Triangle is noticeably different in terms of land use, although the occurrences within this area have had effects on the horses outside of it.

Media attention and outside public opinion has not accounted for the differences in land use, climate, socioeconomic and environmental interactions between the issues present in the Brittany Triangle and the study area. There is much overlap in terms of public opinion, NGO involvement as well as management implications between the issues facing the Brittany Triangle horses and other free-roaming horses in the Chilcotin. Of the stakeholders assessed, none from within the study area suggested conservation measures or protected status for the horses. Protected status of horses in Brittany Triangle has drawn increased media attention to the area.

The Chilcotin is socioeconomically and biophysically varied, factors that do not translate well into a media format which tends to focus on obvious and direct crisis (Burnstein, 2003).

The nature of free-roaming horse management differs across Canada. In 1961, the federal government passed legislation protecting Sable Island, off the coast of Nova Scotia. Sable Island is home to over 300 free-roaming feral horses that are part of the island's unique and diverse ecosystem. The island, and therefore the horses, are protected and regulated by legislative mandate of the Canadian Coast Guard, Department of Fisheries and Oceans (DFO), through the Canada Shipping Act, Sable Island Regulations, as well as by Migratory Bird Sanctuary Regulations under the Migratory Birds Convention Act (Sable Island Preservation Trust, 2004). Free-roaming feral horses on Sable Island are not protected as a species but instead gain protection from the ecosystem in which they survive.

Within the United States wild horses and burros are managed by the Bureau of Land Management (BLM) under the Wild Free-Roaming Horses and Burros Act, 1971. The BLM's policy is to manage horses in order to “ensure that healthy herds thrive on healthy rangelands” (Bureau of Land Management, 2010). This policy is multifaceted and includes a number of different strategies and practices depending on specific horse numbers in each region (Figure 5.1). If overpopulation on rangelands occurs, the policy is to round up and adopt out horses and burros from the landscape (Bureau of Land Management, 2010).



**Figure 5.1: BLM helicopter round up of wild horses (photograph Lin, 2005).**

Ponies of the Bronson Forest in south-western Saskatchewan were recently protected under provincial legislation, through the Protection of the Wild Ponies of Bronson Forest Act. Located in and around Bronson Forest, wild ponies numbered 125 in 2005, a number that has dropped to less than 40 in 2009. The Protection of the Wild Ponies of Bronson Forest Act was introduced to provincial legislation in 2009 following reports that ponies were being shot. The general intent of the act is that of protection for the species. The act is not aiming to protect the land on which the ponies reside, or the species because of their ecological significance, instead it protects the ponies because of their value as a tourist attraction (The Protection of the Wild Ponies of the Bronson Forest Act, 2009). Within Saskatchewan, wild ponies are not considered wildlife or livestock. Having been formerly domesticated, according to the NDP and Saskatchewan Party governments, the ponies did not meet criteria for protection under current

environmental legislation (Woods, 2009). Since the ponies failed to meet protection criteria under existing legislation protection needed to be developed through alternate methods.

The examples provided demonstrate that although the same species, policy and practices differ depending on the case being examined. On Sable Island wild horses are considered a valuable part of the island ecosystem and therefore are protected in order to maintain the ecosystem. Within the study area interests differ pertaining to what the goal of policy should be. Free-roaming horses are currently not included in federal or provincial legislation. In the United States, all wild horses and burros are managed under federal legislation, with specific strategies and practices depending on the area being examined.

The Protection of the Wild Ponies of Bronson Forest Act, along with the other case studies presented, illustrate that when dealing with wildlife cases must be examined on an individual basis within the context of other cases. Policies can be used as a standard but are not directly transferable due to the varying factors present in each individual area. In the case of Bronson Forest, protection of the ponies works as a policy goal. Protective legislation was possible because stakeholders supported the goal. NRE policy has a large effect on local ecosystems. Therefore NRE decision making needs to “reflect the knowledge and interests of users or stakeholders of those ecosystems, so that the decisions will be both effective and legitimate” (Barg and Tyler, 2009).

Scale is an extremely important aspect of decision-making within NRE policy. Decentralization is defined as decision-making based on a hierarchy that delegates decisions from units with constitutional authority to smaller units of government (Barg and Tyler, 2009). According to Barg and Tyler (2009):

The decentralization of decision-making authority and administrative responsibility to the local level can be an important mechanism in



facilitating positive policy responses to unforeseen circumstances. In principle, having decisions made close to the citizens most affected is a way to provide better feedback and ensure that decision-makers are well informed about problems and effects of proposed interventions, as well as the nature of different interests. (p. 80)

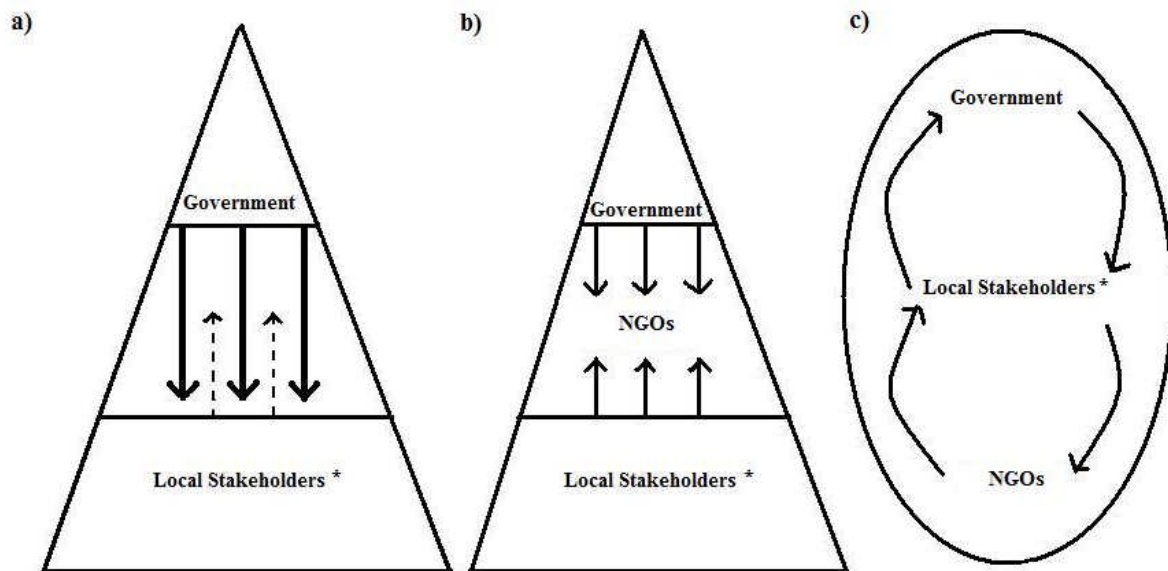
Decentralization assures flexibility, effectiveness and adaption to change because ecosystems and local conditions range so widely (Barg and Tyler, 2009).

On the other hand, certain systems and policy issues are not conducive to decentralization. Decentralization within NRE policy can cause a patchwork of individual, sometimes conflicting policies, which lack coordination and scope (Andrews, 2006). Patchwork is not effective when dealing with long-term multi factor issues such as wildlife management (Barg and Tyler, 2009). In the presence of decentralized decision-making, in order to avoid patchwork policy, it is important not to lose sight of the broad context or holistic scope within which each case is located.

Historical management enacted by the MOF did not hold up to public scrutiny because it did not account for the diverse and unique nature of PAVs within the region. Figure 5.2 is a visual representation of historical, current and recommended management strategies. The historical strategy, during the time of the HCP, did not account for local interests regarding management practices. The management strategy represented in the historical schematic only allowed for minimal input from ranchers. First Nations were not consulted and were therefore not included in management decision-making. The historical strategy was a top down approach to management. Although criticism of the HCP ultimately led to its dissolution, the resulting period allowed for re-evaluation.

The current strategy shows a top down approach with NGOs at the centre and increased input from local stakeholders. The current strategy illustrates the management stalemate that is presently occurring. The recommended strategy shows a more holistic approach to management.

A solution can only be found by cooperation amongst stakeholders who have a vested interest in the landscape (Ludwig, 2001). A common criticism of the open range policy is that range users tend to look after their private land more diligently than the public land that they utilize for ranching (Hessing et al., 2005). A bottom up approach will ensure that those directly affected will have input. Government still has a primary role in the recommended strategy but local stakeholders will be at the centre of decision-making and NGOs are also actively involved.



\*Includes ranchers and First Nations but is not limited to these groups.

**Figure 5.2: Management strategy schematics, a) historical b) current c) recommended.**

Management of free-roaming horses is tied to economic, social, cultural, political and environmental factors. Over the years these factors have been deemed ‘more important or less important’ and have had varying influence on management and management decisions. There are a number of factors at play on the landscape, which cannot be excluded from discourse regarding free-roaming horse management. All factors must be considered and applied to the individual case being examined.

## **CHAPTER SIX: CONCLUSIONS AND RECOMMENDATIONS**

### **Summary**

Research set out to assess stakeholder interests in order to identify a strategy for best management practices of free-roaming horses in the Chilcotin, British Columbia. Research focused on discussing awareness/interaction, management and policy/associations with a variety of stakeholders. Management of free-roaming horses was discussed in terms of historical, current and future free-roaming horse management. Stakeholders included, but were not limited to, ranchers, First Nations, NGOs and British Columbia government representatives. Of the twenty-five total interviews, 60% were male and 40% were female. Ages ranged from twenty to eighty, with the majority between the ages of thirty-five and fifty. All stakeholders were open to communication about the issue, with each offering unique and important opinions and interests. With the exception of three of the four NGO representatives, stakeholders have all lived in the community for many years. Longevity in the area has resulted in stakeholders possessing a shared knowledge of the area and the free-roaming horses present there. Shared knowledge ranges from historical use and importance, to the free-roaming horses interaction with cattle and wildlife. Although specifics of the research are not directly transferable due to unique biophysical and socioeconomic factors, this research can be used as a framework for further research on the management of free-roaming horses within British Columbia, Canada and abroad.

Changing land title and land use, antiquated policies and difficult economic times including budget cuts to government agencies, has resulted in a lack of clarity regarding free-roaming horse jurisdiction. Lack of classification as livestock or wildlife under provincial or

federal legislation has resulted in a lack of clear management goals. Management goals are not clear, resulting in confusion as to which government agency or First Nations body is responsible.

## **Conclusions**

Existing research indicates that opinions regarding free-roaming horse management in the Chilcotin are polarized (McCrorry, 2002; Hayes, 2007). The overall perception within the study area is that ranchers do not want horses on the range because of negative interactions with cattle and wildlife, predominately through competition for forage. First Nations are perceived as wanting the horses preserved for cultural and spiritual reasons. This finding indicates that the perceptions held by stakeholder groups regarding each other are mislead and are informing how each stakeholder group views the policy process. Data collected through this research indicates that management goals, strategies and practices differ among stakeholders, but overall interests are consistent. There is a place for free-roaming horses on the landscape as long as there are no negative biophysical or socioeconomic impacts resulting from their presence.

The first objective of this research was to define the issue, including past and present geographic location of the free-roaming horses. Free-roaming horses represent a highly mobile species moving easily across the landscape. Interviews and personal observations indicate that free-roaming horses are present throughout the area. Horse dispersion and spatial preference is neither predictable nor easily understood, although some key conclusions can be drawn. To date, no formal grazing studies have been identified pertaining to free-roaming horses in the Chilcotin. Personal observations and local knowledge indicate that the horses prefer both marsh areas and open meadows, including clear cuts, using forested areas for cover and mobility. Each horse band does tend to stay within a general range although that range can be large, with horses being

known to move freely between open meadows. The presence of fire within the area also plays a key role in the dispersion of horse bands.

The second objective aimed to identify stakeholder interest pertaining to free-roaming horse management. Free-roaming horses have a strong cultural significance to stakeholders within the area. Cultural significance ranges from appreciation for the historical role of free-roaming horses, to religious and spiritual connections. Regardless of individual stakeholder interests pertaining to management, the majority of stakeholders respect horses, free-roaming or otherwise. Stakeholder interest pertaining to management indicates that the horses need to be managed in a way that ensures the health of the range as well as the health of the free-roaming horse bands.

The interests of stakeholders regarding free-roaming horse management vary depending on the area and community discussed. Each area and community differs in terms of social, economic and environmental factors. Combining all interests into one category is impossible because factors affecting interests are varied. Overall, stakeholders would like the free-roaming horses managed, although the goals of management differ amongst stakeholders. Ranchers would like free-roaming horses numbers controlled. Ranchers would like to have horses present on the range, but not to the point where population size negatively impacts the rangeland, and therefore cattle. First Nations would like the right to manage the landscape and therefore the horses. The management goal of First Nations is to maintain a population of free-roaming horses whose characteristics are deemed useful by each specific First Nation community. The interests of NGOs vary depending on their specific mandate. Overall interests are consistent with a need for management goals that are specific to the individual and unique factors present in different geographical areas.

The third objective was to assess historical and current, federal and provincial policy, related to free-roaming horse management in British Columbia. Over the years, free-roaming horse management has ranged from ranch to range scale. Prior to the Horse Control Program, which removed horses from the landscape through shoot and bounty programs, local community members were responsible for free-roaming horse management. There were two main management goals during this early period. The first was to control free-roaming horse numbers in order to ensure that free-roaming horses did not compete with cattle for forage. The second was to maintain usable traits in free-roaming horse populations. Individual and community need determined usable traits and ensured that horses on the landscape possessed traits specific to how the free-roaming horses were being used. The strategy practiced by ranchers and First Nations was to control horse numbers and supplement the free-roaming horse bands according to what was present on the landscape and what was needed. Practices included rounding up, shooting and releasing horses in order to breed desired traits into the free-roaming bands.

Shared knowledge and skill sets pertaining to historical management are still present, but are at risk of disappearing due to lack of use and lack of interest by younger generations. The Horse Control Program, provided economic incentive to remove horses from the landscape but did not account for local PAVs including the cultural significance of free-roaming horses within the area.

An antiquated policy which has not kept up with changing social values has resulted in a lack of clear management goals pertaining to free-roaming horses in the Chilcotin. Best management practices can only occur when the goal of management is clear. Legislative deficiency and lack of clarification in terms of jurisdiction for free-roaming horses in the Chilcotin has resulted in a lack of classification as wildlife or livestock. Lack of classification

has left stakeholders frustrated and in need of communication and collaboration. NGOs, pending land title appeals and lack of transparency on the part of the British Columbia Government have resulted in miscommunication and generalizations between stakeholder groups.

## **Recommendations**

### **Management and Policy**

The fourth objective is to recommend a strategy for best management practices. In the case of free-roaming horses within Canada, and the study area, decentralization in policy-making is optimal because there is little consensus among stakeholders regarding management goals and practices. As shown through the case studies presented, stakeholder interests differ depending on the unique factors present within each area and within each stakeholder group. The effects free-roaming or wild horses have on the socioeconomic and biophysical landscapes differ between locations. One overarching federal or provincial policy would not encapsulate the value that the species holds to each stakeholder group or to the ecosystem. In the Bronson Forest, like the study area, ponies are not considered wildlife but are a cultural and economic resource, therefore a policy that simply preserves the ecosystem would not be suitable. Overall, careful determination of the best scale at which to manage NRE issues must precede policy and management efforts (Barg and Tyler, 2009). It is also necessary to keep in mind that although decentralization in decision-making is optimal, a holistic perspective is required if there is to be collaboration among various stakeholders and agencies (Dearden and Mitchell, 2005).

Increased collaboration and transparency in decision-making is needed within and among stakeholder groups. Increased collaboration will increase transparency through an exchange of information and sharing of resources (Dearden and Mitchell, 2005). Collaboration assists in the



realization of common goals and strengthens “policy design by building recognition of common values, shared commitment and emerging issues” (Tyler, 2009, p.41). Performed properly collaboration will increase communication and participation in the management process, providing stakeholders with a means to feel committed and increasing the possibility of finding acceptable solutions with effective implementation (Dearden and Mitchell, 2005). Collaboration can be achieved through interdepartmental committees or task forces which coordinate the activities of various stakeholder groups. Committees and task forces can be a “means through which effective collaboration can be achieved” (Dearden and Mitchell, 2005, p.165).

Overall, the strategy for best management of free-roaming horses needs to include decentralized decision making, while keeping a holistic perspective. The strategy should focus on increased collaboration and transparency, which will promote communication, dialogue, resource and idea sharing, within and among stakeholder groups. Decentralization and collaboration will facilitate policy that is relevant and up to date with current PAVs.

### **Future Research**

Most research conducted to date regarding free-roaming horses has focused on horse bands in the United States. Some of this research is applicable but due to differences in demographics, land use and climate most of this research is not directly transferable. Future research involving a number of disciplines needs to take place in order to qualify anecdotal perceptions held by both local stakeholders and those from outside of the area. This research ranges in direct significance to the issue and scope. Table 6.1 outlines the local, regional and national research recommended to complement free-roaming horse management.

In conclusion, this research assessed stakeholder interests pertaining to best management practices for free-roaming horses within the Chilcotin, B.C. Issues surrounding the management

of mobile species such as horses are interdisciplinary and multifaceted. A number of recommendations have been presented pertaining to management and policy, and future research. The act of performing transparent multi-stakeholder research on an issue of this nature is the first step toward promoting collaboration within and between stakeholders and developing a management plan that accounts for biophysical and socioeconomic factors (Simon, 1983). It is important that the horses do not disappear and that they interact in a positive way with other economic and social factors within the area. Research has provided the data necessary to form a management plan, which focuses on decentralization, collaboration and transparency in decision-making. This research was the first step in building and increasing communication amongst stakeholders.

**Table 6.1: Future research recommendations**

<b>Local</b>	<b>Regional</b>	<b>National</b>
Combined effects of horse and cattle grazing on wildlife and range health in this specific climate	Assessment of potential for free-roaming horses as an economic resource	Compare and contrast Chilcotin free-roaming horses to those in other parts of Canada
Assessment and documentation of historical and present wild horse management, including shared skill knowledge	Cultural significance of free-roaming horses	
Assessment of free-roaming horse numbers	Predator preference: cattle and free-roaming horses	
Assessment of free-roaming horse grazing preferences *	Relationship between free-roaming horses and use of fire	
Range studies		
*similar study is taking place in the Brittany Triangle which would provide for an ideal comparison		

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Appendix A: Interview Schedule

This document is being used to gain background information and to inform your interview. Please only fill out sections that you are comfortable with. In the final thesis report your name will be confidential. If you do not want this information published please let me know at any time throughout the interview or contact me any time after the interview using the contact information provided.

1. Are you...  Male  Female

2. What is your occupation: \_\_\_\_\_

2. What is your age?

Under 18  18-24

25-34  35-44

45-54  55-64

65 or older

4. What is your income range

Under \$20, 000

\$20,000-\$40,000

\$40,000-\$60,000

\$60,000-\$80,000

Above \$80,000

4. a) Do you currently own horses? YES NO

b) Have you owned horses in the past? YES NO

5. How long have you been living in this area?

\_\_\_\_\_ weeks OR \_\_\_\_\_ months OR \_\_\_\_\_ years

6. Are you aware of the presence of wild horses in this area? YES NO

5. If YES have you ever come into contact with the horses? YES NO

If YES how often? \_\_\_\_\_

If NO how are you aware of their presence? \_\_\_\_\_

The interview questions will be very reliant on the answers from the survey questions. The questions will follow this basic structure but will be adapted to how each participant answered the questionnaire questions.

### **WELCOME AND OVERVIEW**

Hello, my name is Katherine Card, and I am a master's student at the University of Manitoba performing research on management of the wild horses in the Chilcotin. Over the next few months I will be interviewing a number of individuals in the area in order to identify best management practices for wild horse bands. I would like to ask you questions about your experiences and knowledge of the horses and management policy. I anticipate our interview will last about 1 hour, and appreciate any information you can provide. Our conversation will remain confidential. With your permission I will audio record our conversation but your name will be coded in order to ensure your privacy.

### **MAIN QUESTIONS**

At this point I would like to go over the interview schedule you filled out and ask you a few more questions about your answers.

Participants will be shown a map which will be used as a reference system throughout the interviews. If they are comfortable with doing so, they will be asked to identify areas on the map that they have come into contact with the horses or have heard of contact with the horses.

### **BACKGROUND**

Participants will be asked to expand on background questions from the interview schedule.

### **AWARENESS AND INTERACTION**

Participants will be asked to expand on their awareness of the wild horses.

- Explain experiences you have had with the wild horses? (probes: personal? stories you have heard?)
- Please tell me a story about your experiences with the wild horses?
- Please explain how you felt about the horses when you started ranching and how you feel about them now? (probes: perception changed or stayed same? If changed: can you identify some reasons why your perceptions have changed?)

After the stories probe by asking what they meant by certain aspects of the story. Ask why they chose that specific story.

### **MANAGEMENT**

These questions will change depending on answers to the previous questions.

- Can you explain to me your grazing practices? (probes: crown land? grazing lease? private land?)
- In terms of land management what grazing was like when you started ranching and what it is like now? (probes: changes in land tenure?)
- If graze on crown land: Can you please explain the role of government in your grazing? (probes: regulations?)
- Please discuss any changes in land use you have seen from when you started ranching until now? (probes: guest ranches? demographics? economic?)

### **POLICY/ ASSOCIATIONS**

-Please explain any experiences or interactions you have had with organizations that deal with the wild horses? (probes: heard of any? involvement in any?)

-Explain any policy or management you are aware of regarding the wild horses? (probes: government? first nations? NGO's?)

### **WRAPPING UP**

-Is there anything else you would like to talk about regarding what we have discussed today?

### **CONCLUSION**

Thank you very much for your time. Your responses are very important and will be very useful for this research.





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**Letter of Consent**

**ASSESSING STAKEHOLDER INTERESTS:  
A strategy for best management practices of wild horses,  
Chilcotin, British Columbia**

**Researcher- *Initial Contact:*** Katherine Card  
Natural Resource Institute  
University of Manitoba  
Winnipeg, Manitoba, Canada  
204-474-8373  
**katherinecard@rogers.ca**

**Supervisor:** Thomas Henley  
Natural Resource Institute  
University of Manitoba  
Winnipeg, Manitoba, Canada  
204-474-8373  
**henley@ms.umanitoba.ca**

**This consent form, a copy of which will be left with you for your records and reference, is only part of the process of informed consent. It should give you the basic idea of what the research is about and what your participation will involve. If you would like more detail about something mentioned here, or information not included here, you should feel free to ask. Please take the time to read this carefully and to understand any accompanying information.**

**Purpose of the Study:**

This research is being conducted for a Masters of Natural Resource Management degree through the University of Manitoba's Natural Resource Institute (NRI). The final document will be submitted to the Graduate Studies department at the University of Manitoba and will be available through the NRI. A copy of the completed document will also be available through the FONV, BC Forest Service, Alexis Creek Stockmen's Association, Redstone and Anaham Band offices.

The aim of this research is to identify best management practices for wild horse bands in the Chilcotin, British Columbia (B.C.). Currently wild horses in B.C. are not recognized under the B.C. Wildlife Act, resulting in a lack of management. With changing land use patterns in the Brittney Triangle the wild horse ecosystem is under threat of diminishing, with risk of the species eventually being lost forever. Research will combine a thorough review of policy documents as well as interviews.

**Procedures involved in the Research:**

You will be asked to complete a short interview schedule and an in person oral interview. You will be asked questions about your experiences with the wild horses and their ecosystem. During this interview you will be recorded using a hand held digital voice recorder. This digital voice recording will only be used to help the researcher in transcribing the interviews at a later date. All recordings will be stored on the researchers personal computer which will be password protected.

**Risks:**

There are no harms or discomforts associated with this study. It is not necessary to answer questions that make you uncomfortable or that you do not want to answer.

**Benefits:**

You will have no immediate benefit, but the completed thesis will be used to create better management practices for the wild horses and their ecosystem.

**Confidentiality and Anonymity:**

Your name will not be published in the final report. In the final report names will be coded, allowing for anonymity. No identifying information will be used.

After analysis is completed the data obtained will be stored in a locked office. During the period of analysis the interview schedules will be kept in a locked drawer within the researchers desk. Any information on a computer will be password protected. All materials edited out of the final document will be destroyed after 3 years.

**Debriefing/ Verification:**

There will be a verification/debriefing focus group following completion of all interviews. This focus group will allow you to debrief about the interview you participated in and verify the data collected. Attendance at this focus group will make anonymity difficult. Attendance is not mandatory. You will be contacted about this focus group once all interviews have been completed (approximately August 2009). You are encouraged to contact the researcher, using the information above, if you have any questions or concerns regarding your interview.

**Participation:**

Your participation in this study is voluntary. If you decide to participate, you can decide to stop at any time, even after signing the consent form or part-way through the study. If you decide to stop participating, there will be no consequences to you. If you do not want to answer some of the questions you do not have to, but you may still participate in the study. If you chose to withdraw from the study, at any time, the data will be dealt with according to your wishes. If you wish for the data to be used it will, if you wish for the data to be destroyed the researcher will do so.

The interview schedule and oral interview will take approximately one hour to complete.

**Your signature on this form indicates that you have understood to your satisfaction the information regarding participation in the research project and agree to participate as a subject. In no way does this waive your legal rights nor release the researchers, sponsors, or involved institutions from their legal and professional responsibilities. You are free to withdraw from the study at any time, and /or refrain from answering any questions you prefer to omit, without prejudice or consequence. Your continued participation should be as informed as your initial consent, so you should feel free to ask for clarification or new information throughout your participation.**

**This research has been approved by the Joint-Faculty Research Ethics Board. If you have any concerns or complaints about this project you may contact any of the above-named persons or the Human Ethics Secretariat at 474-7122, or e-mail**

**margaret\_bowman@umanitoba.ca. A copy of this consent form has been given to you to keep for your records and reference.**

**Consent:**

I have read the information presented in the information letter about the study being conducted by Katherine Card of the University of Manitoba. I have had the opportunity to ask questions about my involvement in this study, and to receive any additional details I wanted to know about the study. I understand that I may withdraw from the study at any time, if I choose to do so, and I agree to participate in this study. I have been given a copy of this form.

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Participant's Signature Date

---

Researcher and/or Delegate's Signature Date