

Seeing the Wolf through Sami Eyes

– Understanding Human Dimensions of Wildlife Conflict in Northern Sweden

A Thesis

by

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## ABSTRACT

Around the world, there are human-wildlife conflicts with negative implications for both people and wildlife, manifesting in forms such as crop raiding, livestock killing and retaliation killings of the animal transgressors. Human-wildlife conflict has been defined as “an overlap in the requirements of humans and wildlife”. It has however become increasingly recognized that human-wildlife conflicts are not just about humans having conflict with wildlife, but also about humans having conflicts with humans about wildlife.

The reason for such conflict lies in differences in interests for wildlife between various stakeholders, in turn determined by their underlying beliefs about nature, wildlife, and what kind of relationship humans should have to these. Generally, there is a divide between well-educated urban dwellers and their protectionist values of nature, and rural dwellers that typically have utilitarian values towards nature. While the ones creating wildlife management policy usually belong to the former group, those that mainly become affected by it tend to belong to the latter. Although there are economic elements involved in such conflicts, literature suggests that wildlife conflicts are often not about wildlife itself, but that they provide a battleground for deeper lying social beliefs held by the respective stakeholders. Further, the animal in question becomes a projection surface for the beliefs in question. One well-studied example is the wolf; while environmentalists typically view it as a symbol of freedom and a healthy ecosystem, its opponents view it as a symbol of governmental control and as a threat towards the existing order and traditional ways of life.

However, studies of the perspective of indigenous people in human-wildlife conflicts are however lacking. Indigenous people typically possess views of nature and wildlife which differs

from that of the majority populations in their countries, leading to behaviors that might not fit in readily within the HWC framework. Further, their views which might prove valuable for our understanding of human-wildlife conflict in general.

In this thesis, the nature and wildlife values of the Sami, an indigenous, reindeer herding people in Northern Sweden, were studied. Historically marginalized, the Sami are currently being negatively affected by the carnivore management policy in Sweden, as well as the reestablishment of the wolf, and their resistance towards carnivores in general, and wolves in particular, creates tension between them and the government, as well as large portions of the majority population of Sweden.

The goal of this study was twofold; first, by characterizing the nature and wildlife values of reindeer herding Sami, the case study itself could be better understood. Second, but foremost; existing conceptual tools for understanding the human dimensions of human-wildlife conflict were tested on an indigenous people, in order to test their validity for such stakeholders. Data was collected through face-to-face, semi-structured interviews with reindeer herding Sami and analyzed using the following concepts, found in previous studies of human-wildlife conflict;

1. Man's place in nature (subjugation vs. domination): Whereas members of hunter-gatherer societies generally perceive themselves as subjects to the forces of nature, the shift to pastoralism brought with it a shift in mindset where nature is seen as something that can be tamed to suit human needs.

2. Perception of nature's value (intrinsic vs. material): Whereas environmentalists tend to acknowledge intrinsic values in nature and promote protectionism, people with a classic,

utilitarian mindset tend to view nature foremost as a wealth of untapped resources awaiting human use.

3. Wildlife value orientations (mutualism vs. dominance): People with mutualistic values tend to feel an emotional connection with animals, acknowledge that they have an intrinsic value and believe they have rights, whereas people with a dominance view foremost values animals on the basis of their immediate usefulness to humans, and divide them into the categories “good” and “bad”. There is a positive correlation between mutualism and urban residence, education and income.

4. Need structure (post-materialist vs. materialist): Whereas materialists focus on direct needs such as physical and economic safety, post-materialists focus on values such as self-expression and quality of life. Again, post-materialism is correlated with urban residence, education and income.

5. Access to social power (high vs. low): The environmental agenda tend to be dominated by a middle-class, urbanized worldview promoting protectionist values. Rural populations however, while often carrying the impacts of conservation policies they are seldom able to affect them. Because of this, they feel disempowered, and are likely to protest against such policies.

According to the predictions these concepts make about rural, livestock-owning people, the pastoralist Sami should display utilitarian, materialistic views of nature, and hold dominance values towards nature and wildlife. However, for concepts 1-4 the outcome was the opposite, with the informants displaying strong mutualistic and protectionist beliefs towards nature and wildlife. Their access to social power was however, as expected, low. This has two implications.

First, the existing conceptual tools for studying human dimensions of human-wildlife conflict might be insufficient or inadequate when indigenous stakeholders are involved, as such stakeholders might share basic values of mutualism and protectionism with policy makers, but differ in their definition of “nature” as well as in their priorities in protecting nature.

Second, lack of recognition and lack of opportunities to shape wildlife policy has led to resentment among reindeer herders, which makes reconciliation difficult. Therefore, when creating environmental policy, it is important to involve affected stakeholders early in the process, as well as taking into account ideas about nature, people, and what the proper relationship between these are, for creating acceptance and ultimately success.

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## DEDICATION

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## CHAPTER 1 - INTRODUCTION

### **1.1. Problem Statement**

Human-wildlife conflict (HWC) is a global problem, affecting both humans and wildlife negatively. While generally being understood as competition of resources between humans and animals, it has been increasingly recognized that HWC often arise out of conflicts of interest between various stakeholders as a result of their differing values and beliefs about nature, wildlife and man's relationship to these. Typically, highly educated urban people with protectionist values towards nature create wildlife management policy, whereas rural people with utilitarian values tend to get affected the most about the results of such policies. It has become increasingly recognized that studying these human dimensions of HWC is crucial for understanding and solving the conflicts in question. The majority of such studies however tend to be conducted in the West, particularly in the US; furthermore, they generally involve the majority populations in these parts of the world. Following this, the perspective of indigenous people, whose beliefs about nature tend to differ from those of the majority in their respective countries, tend to be lacking in research on human dimensions of HWC. If HWC including indigenous stakeholders are only interpreted from a Western/scientific way of understanding nature, we might fail to address these correctly and subsequently solve them, resulting in the alienation of affected indigenous stakeholders from the rest of society, generating continued social friction.

### **1.2. Objective**

The objective of this study is to examine a human-wildlife conflict with an indigenous stakeholder, in order to examine whether indigenous people fit within to the existing conceptual

frameworks for understanding nature and wildlife values of stakeholders in HWC. In order to achieve this, the indigenous, reindeer-herding Sami people of northern Sweden have been chosen as a case study. They have general problem with livestock depredation by large carnivores, but are especially opposed the wolf, which creates social friction between them and proponents of wolf conservation. By utilizing existing conceptual framework for studies of human dimensions of HWC on this case study, the objective of this study will be twofold: 1. To assess the usefulness of existing frameworks on nature and wildlife values on the Sami, and 2. To create understanding of the HWC in the case study by utilizing insights acquired in 1.

### **1.3. Structure of thesis**

Chapter 1 gives an introduction and overview to the thesis as a whole.

Chapter 2 presents the literature review done for the study, providing background and theoretical framework for the study.

Chapter 3 present the methodology of the study.

Chapter 4 contains the results of the study.

Chapter 5 contains discussion and conclusion.

## CHAPTER 2 – LITERATURE REVIEW

### **2.1. Human-wildlife conflict**

#### **2.1.1. General Overview**

As long as humans and wildlife has shared living space, there has been human-wildlife conflict (HWC). HWC has been defined as “an overlap in the requirements of humans and wildlife” (World Parks Congress, 2003). HWC is problematic to both humans and wildlife; through crop raiding and predation of livestock, wildlife causes damage to human property, which in many cases causes humans to hunt and kill the wildlife responsible for the damage. More systematic implementation of lethal control of wildlife has had effects such as range collapses of species, trophic cascades and even species extinctions (Woodroffe, Thirgood, & Rabinowitz, 2005). Further, wildlife can attack and kill humans. A dramatic example of this can be found in Northeast India, where more than 1150 humans and 370 elephants died as a result of human-elephant conflicts between 1980 and 2003 (Choudhury, 2010). While the number of people killed by wildlife annually might be small in a global context, such incidents, as well as wildlife-incurred damage on property affects the social acceptance of wildlife locally and regionally, as well as tolerance for conservation policies of the species in question (Woodroffe, Thirgood, & Rabinowitz, 2005). Over time, HWC has been increasing as a consequence of expansion of human settlements and loss of wildlife habitat; this is especially evident when it comes to big animals with requirements for large habitats, such as elephants (Granados & Weladji, 2012) and large carnivores (Woodroffe, Lindsey, Romanach, Stein, & Ranah, 2005). Further, this is especially true for developing countries with growing human populations. In the developed world, increased conflicts instead tend to be a product of wildlife protection policies, having

allowed animal species to increase their populations and reclaim habitat earlier lost to human expansion (Breitenmoser, Large predators in the alps: The fall and rise of man's competitors, 1998) (Conover & Decker, 1991) The case study of this thesis belongs to this latter type of HWC. Overall, HWC is considered a serious global issue that needs addressing for ensuring the livelihoods and safety of groups as people, as well as conservation goals for individual species and overall ecosystem integrity (Woodroffe, Thirgood, & Rabinowitz, 2005).

### **2.1.2. Human-carnivore conflict**

Human-carnivore conflict (HCC) can be divided into a number of categories. These are, according to Linell et al (2005):

- 1) Livestock depredation, often causing significant economic loss and additional work for livestock owners.
- 2) Competition for game animals, which can be real or perceived
- 3) Predation of domestic dogs, either in hunting situations with hounds, or dogs kept close to houses
- 4) Man-killing/mauling, the most rare but most emotive form of conflict
- 5) Fear and dislike, the above factors creating aversion towards predators even as they might not be problematic in a given area

Source: (Woodroffe, Thirgood, & Rabinowitz, Zoning as a means of mitigating conflicts with large carnivores: principles and reality, 2005)

Of the above, livestock predation, especially by large carnivores, is likely to be the biggest source of HWC globally (Woodroffe, Thirgood, & Rabinowitz, 2005). Further, historically, retaliatory killing of carnivores has the biggest reason for the historic eradication of carnivores



throughout large areas (Breitenmoser, Angst, Landry, Breitenmoser-Wursten, Linell, & Weber, 2005). There are a number of reasons that this particular conflict is so problematic. First, domesticated animals tend to have weaker responses for defending themselves against predators, making them more vulnerable and therefore easier prey than wild animals. Second, livestock tend to compete with wild herbivores and may replace them to a degree that they become more common than their wild counterparts, which are the carnivores' natural prey. Third, in the absence of carnivores, livestock husbandry practices have changed. For example, in large parts of Europe and the US livestock are no longer guarded by humans or dogs, making them even easier prey for recolonizing carnivores (Woodroffe, Thirgood, & Rabinowitz, 2005).

### **2.1.3. Mitigation of livestock depredation**

Treves and Karanth (2003) identify three major approaches to solving human-carnivore conflict. The first approach was eradication. This method was employed by several governments in Europe and the West to get rid of wolves (see chapter 2), which resulted in its elimination from large parts of these territories. This approach should be considered costly, both from an economic, social and environmental perspective. The second major approach is regulated harvest. Here, a national or local government issues the right to harvest the carnivore populations on a sustainable level through hunting, in order to lessen predation pressure on livestock. However, unless certain especially damage-inducing individuals are targeted, which is often not the case; the measure tends to be ineffective in terms of reducing economic loss. Regulated harvest can however be used as a tool for creating social acceptance of predators in stakeholder groups affected by presence of carnivores. The final approach is preservation. For reasons discussed below, eradication and also regulated harvest have increasingly become socially unacceptable, and many countries have instead given large carnivores protected status as a result of their

dramatic decline due to human persecution. Instead of killing carnivores, various nonlethal measures are being deployed, with lethal control as a supplement when necessary. The preservation approach has been effective in helping dwindling carnivore populations recover, but the methods employed are however costly, and preservation as such meets political opposition just like lethal control measures (Treves & Karanth, 2003).

Translocation and zoning are two major control measures for large carnivores. Whereas translocation is a non-lethal mitigative measure used after initial damage has been done by an animal, preventive measures seek to preempt incidents before they take place.

*Translocation* is the physical removal of a livestock predating carnivore individual to an area where it causes less damage. This approach can be especially valuable when dealing with locally or globally endangered species. The success rate for translocation is however rather low. First, carnivores are highly territorial and have a strong homing instinct and often consistently return to their territory despite repeated efforts to move it. Second, successfully translocated animals tend to display lower survival rates (for example as a result of intraspecies territorial conflict at the target area). Third, the animal might continue its damaging behavior at the target site. (Linnell, Aanes , & Swenson, 1997). Further, translocation should only be used as a mitigative measure and not as a preventive one; there are cases in Maharashtra, India, where leopard individuals not causing property damage were unnecessarily translocated and begun destructive behavior as a result of the measure itself (Bhattacharjee & Parthasarathy, 2013).

*Zoning* is a management tool which can be defined as “any form of geographically differentiated land management where different forms of potentially conflicting land use are given priority in different areas.” In conservation contexts, the establishment of natural parks and other protected

areas is an example of zoning, where environmental concerns are given priority over economic. In the case of carnivores, the challenge is to ensure viable carnivore populations while minimizing conflict with human interests by reducing the spatial overlap of these. One way of achieving this is to manipulate the density of the carnivores through measures such as lethal control, and reintroduction. Another approach is to adjust how human activities creating conflict are conducted. In the case of livestock depredation this can include putting up fences, utilizing deterrent, increased guarding, etc. Yet another approach is to remove potentially conflicting activities altogether. This can be the case when a protected area is established.

Large carnivores typically occur in low densities, utilize large territories individually and have great dispersal ability when seeking out new territory. Further, they may be well capable of thriving in landscapes with degraded natural environment, dominated by human activity (Linell, et al., 2005). In some cases, they even tend to occur mainly outside of protected areas, which is the case for cheetahs in Namibian farmland (Marker & Dickman, 2004). For this reason, it is obvious that a black and white carnivore/no carnivore system with protected and unprotected area respectively is not enough for addressing human-carnivore conflicts. Rather than that, a graded series of zones, each with specific managerial prescriptions, spanning both multi-use landscapes and protected areas, should be utilized. Creating this kind zoning is heavily dependent of the support by the humans living and/or working in the area in question (Linell, et al., 2005), which in turn require an understanding of the human dimensions of HWC.

## **2.2 Human dimensions of HWC**

### **2.2.1. Overview**

When wildlife management institutions originally emerged, their purpose was to see to the needs of rural agrarian communities, such as regulation of game animals for hunting and predator control for protection of livestock. However, as the populations of the developed world gradually became urbanized, a shift in values followed, as a result of changes in lifestyle such as specialization in work, separation from food production, paving ways for new ways of assigning meaning to nature and wildlife, different from the classic utilitarian mindset (Patterson, Montag, & Williams, 2003). In rural areas, where values tend to be more traditional, the effects of wildlife are often also most felt. As a result, in as well developing as developed countries, HWC becomes a conflict between different social groups with different ideas of how to manage wildlife, often falling across the urban-rural divide (Woodroffe, Thirgood, & Rabinowitz, *People and Wildlife - Conflict or Coexistence?*, 2005). Further, conflicting ideas about proper wildlife management practices may not only reflect beliefs and values about wildlife itself, but ultimately differences in more fundamental, underlying social beliefs about for example tradition, private property rights and governmental control (Patterson, Montag, & Williams, 2003) (Wilson, 1997) (Scarce, 1998) (Nie, 2001). Recognizing these human dimensions of HWC might be essential for solving them.

### **2.2.2. Concepts for exploring human dimensions of HWC**

Research has given rise to a number of concepts for analyzing on the human dimensions of human-wildlife conflicts. Manfredo, Teel and Henry (2009) utilized a cognitive hierarchy model to identify two main *wildlife value orientations* (WVO), “*domination*” and “*mutualism*”,

respectively. A person with domination WVO believes that nature and wildlife is subordinated humans and should be used to best suit our needs, whereas a person with mutualism WVO believes that wildlife have rights and is deserving of caring and compassion, and are capable of having relationships with humans built on mutual trust (Manfredo, Teel, & Henry, Linking Society and Environment: A Multilevel Model of Shifting Wildlife Value Orientation in the Western United States, 2009). In a 2010 study, Manfredo and Dayer presented a number of concepts for “exploring the social aspects of human-wildlife conflict in a global context”. The first of these is *subjugation/domination*, describing how a person perceive their place in nature. Whereas hunter-gatherer societies see themselves as dependent on the whims of a powerful natural environment, the shift to pastoral societies marked a shift to a domination worldview, where humans perceived themselves as rising above nature and shaping it according to their needs. The *religious/scientific* concept describes the influence of religion and science on beliefs towards nature. Whereas the Judeo-Christian school of thought emphasizes human domination of nature, Hinduism and Buddhism have less of a distinction between humans and animals and emphasize the formers compassion towards the latter. Scientific/rational thought has on the other hand been used for justifying both dominance and mutualism. Finally, *materialist-post-materialist need structure* explores the impact of economic development on nature beliefs. When a society achieves a certain level of prosperity, values shift from being predominantly about economic and physical security, to being more about self-expression and quality of life. A range of these values can however be found in one and the same society, and whereas materialists have more emphasis on nature use, post-materialists emphasizes protection (Manfredo & Dayer, 2004). Wilson (1997) identified three underlying social issues that shaped the conflict surrounding the reintroduced wolves in Yellowstone National Park. The first, *differential access to social power*

describes how social power may influence views on environmental policy. The environmental agenda tend to be dominated by a middle-class, urbanized worldview whose followers know little about the life in the rural area where the results of wildlife policies is most felt. Rural populations on the other hand, seldom able to affect the policies in question, feel disempowered and alienated from the political mainstream. The second issue is called *conflicting ideas about private property*; while environmentalists in the Yellowstone area seeks to diminish private property rights to increase social control of land for environmental purposes, portions of local residents are opposed to this for the exact reasons, feeling that their personal freedom and possibility to “live of the land” is being diminished by such reforms. The third issue, *conflicting views of nature*, touches upon fundamental beliefs about nature and humans’ place in it. To environmentalists, biodiversity preservation comes before natural resource extraction, and for them the return of the wolf becomes symbol of “ecological reconciliation, a return to wholeness”. For wise users, the Yellowstone area is more like a “vast storehouse of raw energy and materials”. For them, the wolf represents not only a threat of a traditional image of nature that must be tamed by man, but ultimately a threat against the whole Western way of life (Wilson, 1997).

### **2.3. Indigenous perspectives**

While HWC is a useful concept for understanding humans’ interaction with wildlife, it is important to acknowledge that there are limitations to a Western, scientific approach to this topic. Indigenous people tend to have complex, nuanced relationships with animals that simply don’t fit into a typical HWC framework, although it might seem like it at first glance. For example, the Maasai pastoralists of Tanzania and Kenya experience predation on their livestock by lions, and they are of course negative towards such behavior on the part of the lions. Further, among the

Maasai, there is a traditional form of lion hunting, *olamayio*, carried out by young men, *ilmurran*. From a strict western perspective it is easy to interpret the lion hunt as a means of retaliation on the part of the Maasai, and as a potential threat to the lions sharing their land. However, *olamayio* is an old tradition with many positive connotations and Maasai typically express gratefulness to the lion for providing its life to the hunt and the festivities around it. Even when describing livestock predations lions are described in a positive manner; their intelligence (they visit the human settlements two times to assess the situation, and hunt on the third) and their modesty (they only kill what they can eat, as opposed to for example hyenas and jackals). There are also old tales about lions helping and protecting Maasai (Goldman, De Pinho, & Perry, 2010) . On a more general level, indigenous people tend to have unique knowledge about the nature and wildlife they are in contact with, some of which may seem like superstition from a scientific perspective but very much valid upon further inspection. Among native American hunters, certain individuals of various wildlife are called “keepers of the game”, and it is said that these individuals should not be hunted, if so they will make their whole species unobtainable for further hunting. Pierotti (2010) puts forth studies showing that in a cohort of an animal species, certain individuals constituting less than 10% (typically older and larger) might contribute 75-90% of the recruits to following generations. He further argues that Western political and economic pressures have led to an emphasis on harvesting the largest individuals of animals in hunting and fishing, accelerating the collapse of their populations because of their disproportionate reproductive contribution. These larger individuals, he argues, are in fact “the keepers of the game” the Native Americans refer to, and their demise very much has broader ecological and economic consequences (Pierotti, 2010). It is therefore evident, that a strictly

Western perspective might lead to missing aspects of the often complex relationships between humans and wildlife, as well as knowledge on how to properly interact with nature.

## **2.4. The Sami, history and current situation**

### **2.4.1. Overview**

The Sami are the indigenous people of northern Sweden, Norway, Finland and Russia. They inhabit an area spanning over the four countries traditionally called *Sapmi*. Though having pursued a number of different livelihoods historically, they are most famous for reindeer husbandry, a culture they only share with a few indigenous peoples of Siberia. Today the total number of Sami is thought to be around 80 000 of which roughly a fourth, 20 000, live in Sweden. The Sami has been historically discriminated, as the governments of the nation states that were established within *Sapmi* sought to integrate them with the cultural majority (Pikkarainen & Brodin , 2008). As part of this, Sami were christened, forbidden to use their own native tongue and their children were put in residential schools to get “proper” education and values. Today, no such official discrimination exists, but the historical discrimination by the Swedish is reverberates within the Swedish Sami community. The Sami are represented politically by the Sami Parliament of Sweden (*Sametinget* or *Samediggi*) which main responsibility is to raise Sami influence in Sweden. Among their tasks is to collect statistics from the reindeer herding industry which forms the basis for economic compensation, etc from the Swedish government (<http://www.sametinget.se/1027>). Also worth mentioning, *Svenska Samernas Riksförbund* is a politically independent interest organization that foremost represents the reindeer herding minority among the Sami ([http://www.sapmi.se/om\\_0\\_0.html](http://www.sapmi.se/om_0_0.html)).



### **2.4.2. The history of reindeer husbandry**

The exact origins of reindeer husbandry are not well known, there exists unanimous records of reindeer husbandry from the 16th century, but more ambiguous historical sources describe reindeer husbandry as far back as the 9<sup>th</sup> century. It is hypothesized that reindeer husbandry emerged out of traditional reindeer hunting, where a few reindeer individuals were caught and tamed in order to attract wild reindeer to hunt. From there, reindeer started to be used mainly as beasts of burden, as well as for milk. In the early 17<sup>th</sup> century a Sami family unit typically managed a herd of about 30 reindeer, which provided them with labor, milk, meat, and other products. Such a unit is referred to as a *cora* in the Sami language. As demonstrated by Bjørklund (2013) it is clear that such a number of reindeer were not enough to provide a full livelihood for a family, instead, they were part of a complex mixture of husbandry, handcraft and trading, fishing and hunting. Not until the latter half of the 18<sup>th</sup> century herds started to grow over a 100 individuals due to socioeconomic development in the region allowing this. This gradual change might mark the emergence of the modern *siida*, the modern organizational unit for reindeer herding which might contain more than one family unit. According to Bjørklund, only from this point reindeer husbandry came to be the main livelihood for many Sami (Bjørklund, 2013)

### **2.4.3. A brief overview of modern reindeer husbandry in Sweden**

Today 4,600 Sami own reindeer, and of these 2,500 individuals depend on reindeer husbandry for their primary income. The yearly net revenue of the Reindeer industry is 2,5 million EUR (as of 2014), which is less than the yearly turnover of Swedish wild meat production produced by hunting. While reindeer husbandry has become modernized over the past decades with the use of

snowmobiles, GPS and computers, the basic premise for modern day reindeer husbandry is the same as it has always been; the reindeer are free-ranging and sustained through natural grazing, and a year of reindeer herding is centered on the animals' yearly migration from their summer pastures to the winter pastures and back. The reindeer are only rounded up at a few occasions for specific purposes, such as tagging of calves, separation of one's own reindeer from those of the neighboring Sami villages and for slaughter. Fodder is only given to reindeer during severe winters when grazing conditions are especially poor and is a large additional expense for the reindeer herder. Traditionally, the Sami moved together with their herds on foot and ski and thus had a nomadic lifestyle. Today this lifestyle remains, although alleviated by means of car transportation and access to multiple "permanent" homes. Also, often due to barriers in the landscape such as dammed rivers, roads, etc., reindeer are often transported by trucks certain parts of their migration route. As mentioned above, the Sami don't own their traditional land, but have a specific legal right for utilizing it for reindeer husbandry. This means that they can use wild vegetation for producing meat, which is their primary source of income. Other products from reindeer include hides and handcraft made from reindeer antlers (<http://sametinget.se/66807>).

#### **2.4.4. Administrative organization of reindeer husbandry**

Reindeer herding is conducted within the reindeer herding area (RHA) which occupies 52% of Sweden's total surface, situated in the northern half of the country. The organizational unit of reindeer herding is the *siida*, or Sami village. There are currently 51 Sami villages in Sweden, each containing a number of business units or companies, *renskötsel*företag. There are currently about 900 such companies in Sweden. Each company, usually consisting of a family unit of herders, owns a certain number of reindeer, its size varying with the size of pasture the *siida*

provides. Each Sami village is allowed a maximum amount of reindeer depending on the grazing carrying capacity of this area, the number is calculated to be close to the ecological optimum. The current total number of reindeer in Sweden varies between 225 000 and 280 000 individuals (<http://sametinget.se/66807>).

#### **2.4.5. Legal situation**

In Sweden, the Sami were officially recognized as an indigenous people only in 1977, but this status is not established in the constitution, as is the case with Finland. Further, while Norway has ratified the ILO Convention 169, which ensures protection of indigenous peoples from assimilation and protects their right to continue their traditional culture, Sweden has not (Pikkarainen & Brodin , 2008).

Reindeer herding in Sweden is regulated through *Rennäringslagen*, a law established in 1971. According to this law, the Sami has exclusive rights to utilize their traditional land (corresponding to the RHA) for reindeer husbandry. The parts of the RHA situated in the fells above the grain boundary (as well as some additional lowland areas) are called “year-round land” and here reindeer may be kept year round. Additionally, reindeer may be kept in the so called winter pastures, i.e. lowland and coastal lands of the RHA, from the 1<sup>st</sup> of October to the 30<sup>th</sup> of April. In practice, both types of areas are utilized throughout a year of herding, following the natural migration of the reindeer. For conducting reindeer husbandry the Sami must be member of a *siida*, and the *siida* must not conduct other commercial activities besides reindeer husbandry. Individual reindeer herders however have the right to have other sources of income than reindeer herding. Further, the right to conduct reindeer husbandry is dependent on the continuous use of the pastures, a certain number of years of discontinued reindeer husbandry results in the right

being revoked (<https://lagen.nu/1971:437>). Laws serving the same purpose as *Renskötsellagen* are found in Norway and Finland. A major difference in Finland is that non-Sami citizens there are also allowed to conduct reindeer herding (<http://www.finlex.fi/sv/laki/ajantasa/1990/19900848#P4>).

## **2.5. Ecological role of reindeer husbandry**

The grazing of the domesticated reindeer of the Sami is an ecosystem service which mimics the grazing performed by the wild reindeer originally inhabiting the landscape. Would the grazing pressure currently being applied to the landscape by the reindeer cease, drastic changes in the composition of the vegetation of the landscape would result, with opportunistic, fast-growing plant species pushing back more sensitive species dependent on exposure to sunlight, resulting in local or even regional reduction of biodiversity (Tunon & Sjaggo, 2012).

### **2.6.1. Reindeer herding and the great carnivores**

Apart from the wolf, the other great carnivores of Sweden; bear, lynx and wolverine are also protected by the EU Habitat directive, and their numbers has been increasing during the past few decades as a result of conservation policies. As a result, depredation of reindeer has increased as well and the Sami Parliament has reported a 33% decrease in annual reindeer for 2013/2014 compared to 1996 (see table 1 and 2, respectively). In a 2013 government report, it is estimated that between 19,500 and 72,500 reindeer are killed by carnivores. Among these, the lynx is estimated to take 10,000-50,000 reindeer, the wolverine 6,000-15,000 reindeer, the bear 3,500-7,500 reindeer whereas the number for wolves is 75-150 reindeer (Government of Sweden, 2012).

### **2.6.2. Compensation for carnivore depredation and subsidization of preventive measures**

While originally based on the number of reindeer found killed, the current compensation system (since 1996) is based on occurrence of predators. For wolf, lynx and wolverine there are set compensation rates for temporary and permanent occurrences within Sami villages and number of rejuvenations. Occurrence and reproduction of these three species is determined through census carried out during the winter by regional government officials, often aided by reindeer herders. For the bear, which hibernates during winter, a different system is used which is based on an assessment of the number of bears per unit area. This assessment is an extrapolation from a reporting system utilized by Swedish hobby hunters. The problem with the current system has been twofold; first, there have been doubts on the accuracy on the census of wolf, lynx and wolverine from the side of reindeer herders as well as government representatives. Second, no upper limit has been set for how much depredation a *siida* should have to be able to carry, regardless of compensation levels. As of late 2013, a new bill on Swedish carnivore policy stated that no *siida* should have to tolerate more than 10% loss of its annual slaughter outtake to predators (Government of Sweden, 2012). While being a big step forward for Sami rights on a formal level, the practical implementation of this policy has not yet been worked out.

Another way of dealing with carnivore predation is various forms of preventive measures. Livestock owners can receive subsidies for measures such as fencing. Fencing can however never be used as more than a temporarily measure in reindeer husbandry since the reindeer are free-ranging and migrate over long distances in search of pastures. Further, hunting can be used as a regulatory measure. There are two types of hunting for this purpose, licensed hunting and protective hunting. Whereas licensed hunting is a general permission for a certain number of a carnivore to be killed off through hunting, protective hunting is aimed at certain carnivore

individuals causing damage in a certain area. Licensed hunting in Sweden is carried out for bear and lynx, but not for wolf and wolverine. In Sweden, all hunting is regulated in the law *Jaktförordningen* from 1987. Permission for protective hunting of all large carnivore species demands applying for certain permission. However, paragraph 28 in *Jaktförordningen* allows a livestock owner to shoot a carnivore (any species) attacking their livestock if he or she is present during the attack and witness it. With shooting a carnivore comes the responsibility to prove it was carried out in self-defense (Government of Sweden, 2012).

### **2.6.3. Reindeer husbandry and the wolf**

When asked about their relationship to the wolf, reindeer herders typically claim that wolves are incompatible with reindeer husbandry. While claiming that presence of lynx, bear and wolverine is acceptable at “reasonable” levels, they typically request zero presence of wolves. The reason for this is said to be the specific hunting technique of the wolf. Whereas for example the lynx is a stealth killer very well capable of killing a reindeer without the rest of the herd noticing, the wolf relies on scaring and exhausting its prey. The main problem with a wolf attack may therefore not be the number of reindeer killed, but the fact that the rest of the herd becomes scattered and takes days or even weeks to re-gather, resulting in massive amounts of extra labor. Traditionally, night-time guarding against wolves was a big part of reindeer husbandry, a practice making use of traditional knowledge about the terrain, weather and the behavior of reindeer and wolves. Due to the temporary disappearance of wolves in Sweden, as well as modernization of reindeer husbandry, this knowledge has been discontinued (Sikku & Torp, 2004). Another aspect of the Sami reluctance to accept wolves is the effect it has on their public image among majority Swedes. In general, public sentiment towards wolves is becoming more positive over time, and people negative towards wolves tend to belong to stakeholder groups directly affected by their

presence, such as livestock owners; these groups tend to be in the minority. For the Sami, already a minority in the Swedish society already facing prejudice and lack of understanding, the wolf tends have negative consequences on the social level as well (Uddenberg, 2000).

### **2.7.1 Traditional attitudes towards the wolf**

The traditional Sami attitude towards predators was that they were a part of nature that had to be accepted. One retired reindeer herder recalls; “The Sami has never had such a negative attitude towards the carnivores that they don’t exist today. The Sami who always have lived in nature would have done away with them long ago otherwise”. Nevertheless, the wolf occupies a special place among the carnivores for the Sami. The Sami writer Johan Turi (1854-1936) writes: “The wolf is the biggest enemy of the Sami, he kills reindeer year round at every time... ..the reindeer get scared just by its smell and they start to run in all directions and then the wolf will cut off a corner of the herd and drive away and kill as many as he has time for.” While most accounts of wolves typically include the trouble they would cause, there is however stories indicating that there were other sides to the relationship between the reindeer herder and the wolf as well: “After all, the wolf was part of reindeer husbandry and the wolf made the work more exciting. Without wolves the reindeer husbandry would not have been as interesting! Boys and girls were allowed to be out at night to guard reindeer, it was an exciting way of life. The wolf took reindeer but you usually did not become dead broke but had reindeer anyways. When the weather was clear you could see far over the fells, and stars and auroras, it was like a grand play. To be out alone in that darkness and cold was a small adventure.” Further, “The Sami did not curse like Swedes and Norwegians and said “no we will exterminate the wolves and kill them all”. The Sami don’t worry in that fashion, the Sami don’t occupy themselves with hating, not even the wolf. When the wolves that had attacked the reindeer had disappeared life went on in

the same fashion as before. The Sami quickly forget, you moved on and did not think more about wolves. When the wolves howled and left the area nobody pursued them. They just thought, now we don't have trouble with them, let them go!" (Ryd, 2007)

### **2.7.2. Traditional guarding against wolves**

Traditionally, guarding against wolves during nighttime, especially during the winters, was an integral part of reindeer husbandry. It might not have been a constant necessity, but as soon word spread that wolves were in the area, herders would guard every night, in company with each other or one at a time. A herder recollects: "Even if the wolves are not close to the herd you can't ignore guard duty. If all other herding teams guard their reindeer, the wolves will seek out the herd that doesn't have people or dogs around it. Sometimes we would guard for weeks and no wolf showed up, but we didn't dare to leave the reindeer alone during the nights." For guarding, a number of techniques were employed. First, the herder would situate him or herself downwind of the reindeer herd, since wolves always approach their prey against the direction of the wind to avoid discovery. In this way, the herder's scent would get noticed by the wolves as they approached the herd. If there were more than one herder guarding, they would spread out their guard posts, and thus their scent, over a large area (Ryd, Ren och Varg - Samer berättar ("Reindeer and Wolf - Sami tell"), 2007).

#### *The importance of hearing*

The herd would be guarded by eyesight, but foremost by hearing. Since a number of reindeer would carry bells, the activities of the herd could be monitored more easily. Sparse bell chiming would indicate that the herd was active grazing, no sound that they would be resting. Conversely, if intensive chiming was suddenly heard, along with other noises, it would mean the herd was



getting attacked. To facilitate hearing, the guard would build a specific structure out of snow, a so-called *muotha ruodak*. For building this structure, large blocks of snow was cut out with a knife and arranged into an approximately one meter high wall. On the windy side of this wall, the herder would dig a pit in the snow and sit down in front of the wall, which would then amplify sounds carried by the wind from the herd. Further, campfires would be avoided, both for the sake of preserving night vision and the quiet. For the latter reason, talk would also be very sparse in the case of more than one herder keeping company. The reason for this was twofold. First, it was important to monitor the sounds of the herd as closely as possible to notice changes. Second, in the case that wolves were approaching, it was important not to give away your exact position until the wolves were close. The reason for this was to surprise and scare approaching wolves; if they found out your position too soon, they would simply walk around you and attack the herd from a side further from you (Ryd, Ren och Varg - Samer berättar ("Reindeer and Wolf - Sami tell"), 2007).

### *Utilizing dogs*

Dogs were an important part of guarding. Having superior hearing and sense of smell to that of humans, they could alert the herder of approaching wolves in time. When smelling wolves at a distance, the dog's neck hairs would stand up and it would raise its head and cock its ears in anticipation. At this stage, it was important for the herder to stay quiet, as well as keeping the dog quiet as it would start a specific, low growling as the smell of wolves would intensify. Finally, as the dog would get visibly excited and start running around and bark, the herder would know that the wolves were less than a kilometer away and it was thus time to start screaming to scare off the wolves; repeated, long "hoo"s would be effective. Timing would be crucial; once the wolves initiated an actual attack they would be focused on the reindeer and ignore shouting

and barking. During an actual attack, the dog would be let loose. First, it might succeed in making fleeing reindeer turn back to the herder. Second, it could distract the attacking wolves so that the herder might have a chance to move in closely and scare them off. If conditions would be such that the dog could not detect the wolves before the attack, it could feel the vibrations from the fleeing reindeer herd in the ground and thus alert the herder about the attack. (Ryd, Ren och Varg - Samer berättar ("Reindeer and Wolf - Sami tell"), 2007)

### *Deterrence through smoke*

The wolves were used to regular fire smoke and would not be afraid of this. However, reindeer herders on guard duty would smoke the dried leaves of the plant *kvanne* (*Angelica archangelica*) in pipes, in order to scare wolves off. For this purpose, young *kvanne* plants would be picked in early summer since their leaves would be the most bitter in taste, and producing the sharpest-smelling smoke. The leaves and also thin slices of the root were dried and stored in a leather bag; when they were to be smoked they were pulverized and mixed with dried berries from the coniferous bush *en* (*Juniperus communis*) which would be good at maintaining smoldering. The *kvanne* was smoked in a specific pipe, the “wolf pipe” which was used only for this purpose. For best effect, the smoking should be done upwind of the reindeer herd to immerse the animals in the smoke. However, on this side of the herd monitoring sounds was more difficult. Therefore, the ultimate solution was to have a smoking herder upwind of the herd, and a listening herder downwind of it, although a lone herder could smoke downwind of the herd, and spread the smoke through temporary skiing rounds. Ideally, the wolves would simply abandon the reindeer herd when feeling the *kvanne* smoke. They might however also try to walk around the smoke and approach the herd from a different angle. In these situations, the wolves could get situated

sideways to the wind direction, and with some luck the dog would pick up their scent (Ryd, Ren och Varg - Samer berättar ("Reindeer and Wolf - Sami tell"), 2007)

### **2.7.3. Modern measures for protecting against wolves**

Today, reindeer herders typically have larger herds than traditionally, which make it harder to guard them the traditional way. Also, often being able to reach a permanent or temporary home by car at the end of the working day, herders typically leave their herds alone during the nights (Sikku & Torp, 2004). As mentioned above, fencing is largely ineffective as a preventive measure as the reindeer are nomadic and feed on wild vegetation. Since licensed hunting of wolves are not allowed, hunting can only be used after initial damage has been done (protective hunting) and is thus not really effective as a preventive measure. Consequently, given the special requirements of reindeer husbandry as well as its modernization, combined with the current legal situation regarding wolves, reindeer herders have few means of taking preventive actions against wolf attacks on an individual/local level. There is however a zoning policy in place for the regional level, keeping wolf numbers in the RHA low (see section 2.8.3.).

### **2.8.1. The wolf's history in Sweden**

Like in much of the Western world, the wolf was persecuted until relatively recently. The Swedish government issued a bounty on wolves in 1647, greatly stimulating a nation-wide hunt resulting in the eventual extermination of the species in the country. Not until 1966 the campaign stopped as the wolf earned protected status. This was, however, also the year the last known wolf in Sweden was shot. (Sikku & Torp, 2004) In the early 1980s, a single wolf pair which had immigrated from the east established themselves in the Värmland area in the central part of Sweden. These became founders of a new Swedish wolf population which today number around

250 individuals, as of summer 2014 (Government of Sweden, 2012). Since the majority of the Swedish wolf population stems from the offspring of this couple and three other immigrants, it is genetically weak and effects of inbreeding have been documented in many individuals (Government of Sweden, 2012).

The wolf has since its return been a controversial subject in Sweden, as a number of stakeholder groups have been negatively affected by the species. Leisure hunters meet competition for hunting game, additionally their hunting dogs, which are running loose during hunts, often get killed by wolves. Livestock owners have had to withstand attacks on their animals, and this is (as mentioned above) also the case for the indigenous Sami of the northern half of Sweden (Ericsson & Heberlein, 2003).

### **2.8.2. The wolf's legal status in Sweden**

Within the European Union, the wolf has protected status through the EU Habitat directive, which Sweden as a member country must follow. The EU Habitat directive states that any species listed in its appendices, of which the wolf is one, must be maintained in Favorable Reference Populations (FRP) by the member countries in which it resides. For a species to achieve FRP status, it must have a population size, genetic variation and habitat large enough for it to be considered viable in a long-term perspective. It is, however, up to the respective member states to decide whether this goal has been achieved or not for the species in question. As of late 2013, the official stance of the Swedish government is that FRP has been achieved for the Swedish wolf population (Government of Sweden, 2012). However, no real consensus has been achieved within the Swedish wolf researcher community; the reason for this is the difficulty in

determining the exact long-term effects of the abovementioned poor genetics of the population (Personal comment, wolf biologist at Grimsö Wildlife Research Station).

### **2.8.3. Swedish policy on wolves and reindeer herding**

In response to requests from reindeer herders, the RHA is protected from wolves through zoning measures. More specifically, a 2008 bill established that wolves should be allowed to temporarily occur, but not establish territories within the RHA. The 2013 bill on predator policy however proposes that due to the need of genetic reinforcement to the Swedish wolf population, single wolf rejuvenations should be allowed in parts of the RHA where they do “least damage”. During the winter of 2013 a genetically important wolf female (named G 82-10) was allowed to establish territory in the southern part of the RHA for this reason. Her presence however caused severe disruption to the reindeer herding in the area, resulting in much controversy and large public spending on mitigative measures. The case has become instructing in being careful with allowing establishment of wolf territories in the RHA (Government of Sweden, 2012).

The policy preventing wolves from establishing territories in the RHA manages to keep wolf numbers low therein. However, Siida bordering to the south side of the RHA have regular visits of young wolves searching for new territory, causing regular cases of reindeer depredation. Furthermore, the current zoning policy for wolves in Sweden is met with resistance by other affected stakeholders that argue that the Sami should carry their share of the “wolf burden”. Finally, the design zoning policy of the policy still leaves room for wolf establishment in the RHA, reflecting the desire on the government’s side to have a variety of means with which to improve the genetics of the Swedish wolf population. Thus, it is apparent that the Sami-wolf conflict is far from reaching a permanent solution, prompting the enquiry of this study.

## **CHAPTER 3 - METHODOLOGY**

### **3.1 Literature review**

Literature for review was acquired by various means. First, Web of Science was searched using relevant keywords such as “Sami”, “wolf”, “reindeer husbandry” etc. Second, papers found in these search rounds provided references leading to new authors and papers on the subject. Third, all issues of the journal “Human Dimensions of Wildlife - An international journal” were searched for relevant papers. Fourth, in Sweden a visit was paid to the Stockholm City Library where both manual searching for books and utilization of the Swedish Library database Libris was conducted. Fifth, literature was acquired through the structured interviews in Sweden with government officials and researchers on reindeer husbandry and wolves, either directly from the interviewees or through their recommendations.

#### **3.2.1 Structured interviews**

Structured interviews were conducted with government officials and researchers in Sweden. These interviews did not produce any results per se, but served a guiding purpose for the main interviews in the study: Those with the reindeer herders. This was achieved in two ways; first, they provided an up-to-date picture of the current situation in Sweden regarding reindeer husbandry and wolves, second, they provided an opportunity for clarifying unclear issues and seeming contradictions encountered during the literature review. Some of the interviews were documented through writing of notes, whereas others were recorded with both notes and an audio recorder. The structured interviews are listed below, the majority of the interviewees has requested to remain anonymous.

### 3.2.2. List of interviews

130812

Government official at Västerbotten County administrative board.

Head of unit, male, in his 50s.

The interview was conducted over two consecutive days at the interviewee's office at the County Administrative Board in Umeå and documented through the taking of notes. In this interview, the perspective of a regional government official working with wildlife management was acquired. This particular county was one of two affected by the establishment of a genetically valuable female wolf in the winter of 2012/13, causing disruption to the reindeer husbandry conducted in this area. During the interview, a description of the challenges encountered during this situation was given. A main point brought up by the informant was his opinion that there is a lot of prejudice against the Sami in Sweden in general, as well as a major lack of knowledge and understanding about the conditions of reindeer husbandry among majority Swedes.

130814

Clerk of Svenska Samers Riksförening (SSR). Female, in her 40s.

This interview was conducted at the main office of SSR, the main Sami interest organization in Sweden, and documented by the taking of notes. During this interview, the legal situation of reindeer herders was explored, as well as some common misconceptions about reindeer husbandry among majority Swedes. Among other things she explained that snowmobiles make some forms of herd monitoring impossible, since the sound of the motor disturbs the animals.

130819

Group interview with Associate Professor in Animal Science, female and Postdoctoral Research Fellow in animal science, female, at the Department of Animal Nutrition and Management, Swedish University of Agricultural Science (SLU).

The interview was conducted at the researchers' office at their institution in Uppsala and documented through taking of notes. The interviews were focused on technical and economic aspects of reindeer husbandry, such as fodder strategies, fencing and planning of expenses. This interview established that there are limitations to the way Sami can conduct reindeer herding. Since they don't own their traditional land they don't have alternative means to generate income from it, which poses economic restrictions, making it hard to for example rely too much on fodder. Also, it was established that while not being as tame as conventional livestock, semi-domesticated reindeer however are still much tamer than their wild counterparts.

130828

Wolf researcher at Grimsö Viltforskningsstation (Grimso Wildlife Research Station), SLU, female, in her 30s.

This interview was conducted in a conference room at the wildlife research station in Riddarhyttan and documented through taking of notes. The interviews focused on the biology and ecology of wolves in Sweden, in particular their interaction with prey species and competing predators. Among other things, the wolf's positive effect on other carnivores through production of carrion was discussed.



130828

Wolf researcher at Grimsö Viltforskningsstation (Grimso Wildlife Research Station), SLU, male, in his 50s.

This interview was conducted in a common space at the wildlife research station in Riddarhyttan and documented through taking of notes. The interview focused on the genetic status of the Swedish wolf population, the ecological role of wolves in Swedish ecosystems as well as on public acceptance strategies. This researcher claimed that the wolf play a quite insignificant part in Swedish ecosystems due to their low number and the overall condition of the ecosystems. He also maintained that while there may be ecological space for more wolves in Sweden, the limit has been reached in terms of stakeholder acceptance.

130830

Government official at the Swedish Environmental Protection Agency.

Administrator, female, in her 50s.

The interview was conducted at the official's home in Stockholm and documented through taking of notes. The interview focused on management of wolves on a national level, and the challenges in weighing the demands of various stakeholders in the issue. The informant claimed, among other things, that wolf attacks on reindeer herds generate social tension between Sami and other stakeholders, because the reindeer end up on roads, in gardens, etc, when scattered during the attack. This informant also claimed that there is a general lack of knowledge and understanding for Sami among the Swedish general public, as well as some authorities.

130903

Board member of the Swedish Carnivore Association (SCA), female, in her 50s.

This interview was conducted at the main office of SCA, an interest organization for the preservation of carnivores in Sweden and documented through taking of notes. The interview aimed to capture the perspective of the wolf-Sami conflict from the perspective of this NGO which is actively involved in the management of Swedish wolves. The main impression from this interview was that while caring greatly about the wolf, the NGO seems to have little knowledge about the conditions of reindeer husbandry. Their claim that the survival of the Swedish wolf population is dependent on access to territories in the reindeer husbandry area was later demented by wolf biologists interviewed at Grimsö Wildlife Research Station.

140321

Government official at Västerbotten County Administrative board.

Head of unit, female, in her 40's.

This interview conducted at the office of the official in Umeå and focused on the carnivore management in Västerbotten county, for yet more regional perspective of management issues. This informant agreed wholeheartedly to the idea that wolves and reindeer husbandry are incompatible, but claimed that areas within the reindeer husbandry area that are not utilized for grazing could house single wolf territories.

140327

Member of Sami Parliament.

Head of department, male, in his 50's.

The interview was conducted in a common space at the Parliament's Umeå office and documented through taking of notes and audio recording. The interview focused on compensation to reindeer herders for carnivore-related damage. He highlighted the fact that for a long time there were no concrete tolerance levels set for carnivore predation on reindeer, but that it had recently changed, and that he was enthusiastic about this development.

140331

Government official at the Swedish Ministry of the Environment, Unit for Natural Environment.

Administrator, male, in his 50's.

The interview was conducted at the interviewees office at the Ministry in Stockholm and documented through notes and audio recording. The interview focused on wolf management on the national level and relationships between the Sami and the Government. Like other informants, he claimed the Sami do not get their voice heard sufficiently, and that they should be met with less suspicion by authorities in general.

### **3.3. Semi-structured interviews**

#### **3.3.1. Study area**

For study area, the southern part of the reindeer husbandry area was selected. The reason for this was that in the south the reindeer husbandry area borders to a region which contains the majority of Sweden's wolf population. Young wolves born in this area tend to walk northwards when looking for territories to establish themselves in, which means that southern Sami villages has regular encounters with wolves (personal comment EPA informant). Bear, lynx and wolverine

also occur throughout the area to various degrees. The three Sami villages from which informants contributed the study are Vilhelmina Norra, Jinjevaerie and Idre (see figure 1).



*Figure 1: Sami villages of Sweden, Sami Villages included in the study (dark grey) and important cities (based on illustration by Anders Sunesson)*

*Sami Villages included in study: A.Vilhelmina Norra B.Jinjevaerie C.Idre*

*Important cities: 1.Östersund 2.Umeå 3.Luleå*

### **3.3.2. Sampling**

Initial contact with reindeer herders was made through the informant at the Environmental Protection Agency, as she knew them through her work, either directly or using her as a reference. This since it is not always easy to gain the trust of Sami people since they experience negative sentiments from majority Swedes, especially when it comes to discussing carnivore issues (personal comment, EPA informant). It should be noted that while initially a higher number of interviews was planned, a number of these were cancelled because of difficulty for the informants to participate due to their irregular working schedules.

### **3.3.3. Interview technique**

Interviews were carried out in semi-structured form, i.e. while general themes were established; the questions themselves were open in character, allowing the informants to discuss the themes more freely. This format facilitated for the informants to open up and share even quite personal thoughts and ideas. To further facilitate communication, the interviews were opened by a self-introduction by the researcher, followed by a self-introduction by the informant(s). All interviews were carried out in Swedish and documented through field notes and audio recording, and ranged from one to two and a half hours in length.

### **3.3.4. Open-ended questions**

Since the purpose of the interviews was to explore the informants' values and beliefs regarding nature and wildlife, a few open-ended questions were used as the backbone of the interviews, while ensuring that the informant could talk freely. Most of the time, all of these questions did not need to be asked, since the informants tended to answer some of them automatically while telling their stories, sometimes even during their self-introductions. This was especially the case

for the group interview, where a significant portion was used by the informants to describe a year in their Sami Village, which brought up several themes. The open-ended questions were the following:

1. What is your relationship to nature?
2. What is your relationship to the reindeer?
3. What is your relationship to carnivores?
4. What is your relationship with the wolf?
5. What is your opinion on the current way carnivore management is carried out?
6. What does it mean to be Sami in Sweden today?

### **3.3.5. Informants and locations**

Below follows an account of the informants and where the interviews took place. The names of the informants have been changed to ensure their anonymity.

#### 130815 Semi-structured interview 1: Vilhelmina Norra Sami Village

This interview was carried out as a group interview with a retired reindeer herder “Sven” and two of his grown children, “Ingrid” and “Hans”, both active reindeer herders in Vilhelmina Norra Sami Village. The interview was conducted in their family home in the village Kittelfjäll and lasted for two and a half hours.

#### 140326 Semi-structured interview 2: Idre Sami Village

The informant in this interview, “Joel”, is not only a reindeer herder, but has a high-ranking position in Svenska Samers Riksförbund, the main interest organization for reindeer herders in

Sweden. The interview took place at their office in the city Östersund, the county seat of Västerbotten County. The interview lasted for about an hour.

#### 140326 Semi-structured interview 3: Jinjevaerie Sami Village

The last informant interviewed was “Lisa”, reindeer herder in Jinjevaerie Sami Village. The interview was carried out in a common room in Gaaltije, a Saami culture center in Östersund, and lasted for about an hour.

**Table 1: Overview of informants and locations for semi-structured interviews**

Interview	Location	Name	Gender	Age	Sami Village
1	Kittelfjäll	“Ingrid”	Female	50s	Vilhelmina Norra
1	Kittelfjäll	“Sven”	Male	40s	Vilhelmina Norra
1	Kittelfjäll	“Hans”	Male	70s	Vilhelmina Norra
2	Östersund	“Joel”	Male	50s	Idre
3	Östersund	“Lisa”	Female	50s	Jinjevaerie

### 3.4. Analytical framework

For analytical framework, the concepts presented in section 2.4 were utilized, with two exceptions: 1. Manfredo et al’s concept “religious-scientific” might be applicable when studying differences between countries or demographic groups with differing/various degrees of religious faith. However, both Sami and majority Swedes are quite secularized today (and Sami were Christened historically, eradicating their original, shamanistic faith), so religious faith is not an appropriate tool in this study. Likewise, Wilson’s “belief about property rights” is not really

applicable for the Swedish case since the Sami don't own the land they utilize for reindeer husbandry and thus are not in danger of losing it in terms of property.

Table 2 lists the concepts that were used for analytical framework, together with the predicted outcomes for reindeer herding Sami, given that they are interpreted as regular, rural livestock owners.

**Table 2: Concepts in analytical framework and predicted results**

Concept	1.Man's place in nature	2.Perception of nature's value	3.Wildlife value orientations	4.Need structure	5.Access to social power
Categories	Subjugation /Domination	Intrinsic /Material	Mutualist /Utilitarian	Post-material /Materialistic	High/Low
Prediction	Domination	Material	Utilitarian	Materialistic	Low

### 3.5. Technique for analysis

First, complete transcripts were made for each interview in their entirety. Second, the transcripts were analyzed with the use of the abovementioned concepts. In practice, the texts were screened for certain keywords and key phrases that revealed the informant's stance for a specific concept.

Example 1:

*I usually say that, it is not me who has this right, it is the reindeer that carries the right. But that's my opinion...*

Stating that animals have rights is typical for a person with a mutualistic wildlife value orientation.



Example 2:

*It is my life. Of course one has the goal to be able to make a living but **that is not the (primary) goal, to make money.** To be a reindeer herder is to have a lifestyle and then one has to realize one has to yield to... **the vagaries of the weather and the needs of the reindeer.***

This quote reveals two things. First, that being a reindeer herder is not primarily about making money. Second, that it requires an acceptance of having to down to nature, which is characteristic of a subjugation view on nature.

### **3.6. Translation of results**

Upon analysis, all relevant interview sections were translated to English for use in this thesis.

## CHAPTER 4 - RESULTS

### 4.1. Semi-structured interviews

The contents of the semi-structured interviews are presented below.

#### 1. Relationship to nature

Of the interviewed informants, Joel was the one to elaborate the most on man's place in nature as a whole.

*“Man is part of nature, just like a carnivore, or reindeer or moose or something, so... (...) And we have this holistic outlook, in that way a landscape without human presence is also strange, in my opinion. (...) For a while you could almost get the impression that when a natural preserve was established it was in order to protect nature from all human influence. It was almost as if man should not be allowed to exist in nature. But now the tides have fortunately enough turn, as I perceive it...”*

When asked about specific Sami ways of experiencing nature he contrasts it against that of the majority society:

*“I think we have a different sense of reverence so to speak, another respect for nature. And our culture... we haven't used up nature, we haven't raised any concrete monuments or something of the kind.”*

When inquired about the reasons for this, he replies;

*“It is the reindeer, it is really the reindeer that utilizes the land, and we live off the reindeer and hunting and fishing... And then it is important to economize the resources for ensuring long-term survival. (...) And we get this during our upbringing, respect towards wildlife and nature.”*

## **2. Relationship to the reindeer**

The informants in the group interview spoke more about the significance of reindeer husbandry to Sami culture as a whole than just the animal alone.

*Hans: It is culture. Had it not been for reindeer husbandry, there would be no Sami culture left. It would have perished in the 60s or the 70s.*

*Ingrid: We have woodwork handcraft that carries the alliance with the reindeer. There is also the joik (traditional Sami singing), it tells a lot about places, about reindeer, the nature... A lot is connected to the reindeer. There is language as well, Sami has expressions for the reindeer and so forth. There are various forms of culture, but it is the reindeer husbandry which is the usage of the land (...) If the reindeer does not utilize the land (...) we won't have the right to utilize the land (either).*

*Hans: I usually say that, it is not me who has this right, it is the reindeer that carries the right. But that's my opinion...*

*Ingrid: We have a lot of freedom in our work (...) It is not just a line of work for us, it's a way of life...*

*Hans: I would say, the feeling for the reindeer, I guess it never changes, it lives on... (...) You always have that feeling.*

With Joel, the relationship with the animal itself was elaborated upon:

*I have great respect for the reindeer, and its ability to survive in an extreme environment. And yes, I of course want the best for the reindeer. And I want to treat it with both reverence and respect. (...) The reindeer dictates the life of the herder. I usually generalize and state that if the reindeer is happy, I am happy. If the reindeer is satisfied, I am satisfied. (...) Even if we know that a reindeer will be slaughtered we treat it with utmost respect. It should be treated in a humane way all the way up to... when we slaughter it. And afterwards, when it has given its life to us, we have to treat the products from the reindeer with great respect and reverence... also, take care of the meat and make the best out of it, so that nothing goes to waste, so that no reindeer has died in vain, so to speak.*

When asked about what having reindeer husbandry as a profession means to him, he answers:

*It is my life. Of course one has the goal to be able to make a living but that is not the (primary) goal, to make money. To be a reindeer herder is to have a lifestyle and then one has to realize one has to yield to... the vagaries of the weather and the needs of the reindeer. (...) And long-term planning can be real difficult, for example within a family, it all depends on the behavior of the reindeer, what season and weather it is, what the conditions of the pastures are, and so forth. But... I wouldn't want to change with anyone. No. But I feel tremendously proud to be a reindeer herder and... wouldn't want to have another kind of life.*

Joel also touched upon the role of reindeer husbandry as a carrier of Sami identity:

*Further, one has a strong culture, a strong identity, and... I can tell from my own children that they have no problem with identity. And its joyful, one is Sami, reindeer owner and... The children grow up and know this and feel tremendously... satisfied with it.*

Lisa described her relationship with the reindeer as complicated:

*You know, it is complicated, because you can be so angry with them... Sometimes they are sulky, and you drag on, but you always end up with the same insight, it is me who don't understand. Maybe you want to pull them in a certain direction, and it doesn't work, and you struggle and all. Or maybe you want to keep them together and they only disperse, and you get angry and think "don't they get that we only want what's best for them?" But it always ends in the same manner, there is something I haven't understood, and when you do understand you blush a little and think about how silly you were... (...) The other side of it, however, is this bottom-less love that... It hurts terribly, even when it (the reindeer) is well. That is, even when you see it is alright, your soul hurts because you know that when darkness falls, you can't protect it any longer, and this you know every single night.*

On the question whether the reindeer need the Sami, she replied;

*We are the only ones that protect them. Against everything, it is we who at least try to bring them to their pastures and defend the land, where would the reindeer go if we hadn't fought for generations for there to be any land?*

Further, Lisa described how she handles the fact that she eventually will have to slaughter reindeer.

*It is really hard, and if you start thinking you won't be able to slaughter any one of them. But on the day you will carry out slaughter, you may have your focus on the ones that will live on, it is for them some others will be slaughtered, so you must look the ones who will live on in the eye and the ones you choose for slaughter you won't look in the eye... You must keep that focus. That is my strategy.*

### 3. Relationship to carnivores

Stories about carnivores ranged from accounts of attacks on reindeer to more general thoughts on these animals place in nature and the life of the reindeer herders. It was however generally hard to receive thoughts on the animals alone, as the policies surrounding them seemed to be a defining factor in how they were related to.

Ingrid: *We have lived with carnivores, and we have always accepted that... Where they do the least damage, they may dwell. Because if the Lap (old, derogative word for Sami) had not tolerated carnivores, there would not be any left today.*

Joel: *They (the carnivores) don't really have a function when it comes to reindeer husbandry. But we of course understand that they are part of nature.*

Lisa: *One has great respect for them... Respect, but also a delight mingled with terror, but also... they are impressive animals. I have nothing against the animal itself. I have no intention to exterminate any species whatsoever. However, there are situations where they have the real upper hand. And since we have to live in a market-based world... it would be another thing if we could just live in a biological world, but now our lot is to live in a market-based world. A context, and therefore... We have to generate profit in order to survive. And because of this there are situations where we are pressured and must be allowed to defend ourselves.*

Apart from the wolf, the bear was frequently talked about, usually in terms of respect or even friendship:

Hans: *Mum and dad, they head a bear friend. By a lake over there, (where they) lived by a lake all summer and fall... (...) Mum was picking berries, and when she looked up, there he was,*

*eating, beside her. But she didn't run home then, no she continued to pick (berries). When he (the bear) was full, he laid down. And he followed them all the way from the lake to this side of the river. (...) And they went home in the dark, and he followed them and made sounds so they would hear he was there.*

*Joel: One had the utmost respect for the bear, you were supposed to take care of it in a certain way once you had killed it. Women were not supposed to get in contact with the bear's meat. When you had eaten all the meat, the bear was supposed to get buried and the bones had to be places in the right order.*

*Joel: I suppose it is the myths surrounding the bear, one says it has one man's wit and twelve mens' strength... And the bear, he can really act in such a way that you become... mesmerized by its behavior. I suppose that is what has made a respect for the bear emerge. Its being. You can for example get enthralled by the way it treats its quarry after having killed its prey. It can even lower its prey down into a cold spring. It can even put a lever underneath. A tree, so that it can push up the carrion when it's time to eat. Yes, they have a way about them that makes people both admire and in some cases fear them.*

*Lisa: The bear is an impressive animal, I have had the opportunity to study it up close, for some reason female bears with cubs want to be around me and I have met females with cubs several times. And it's... impressive. One notices that it is a very wise animal, a thinking animal, etc. And careful and all that... I have laid down and observed her, she fosters her kids. As a mother you recognize the signal system, both encourage and admonish, and encourage again... (...) I have a deep respect (for the bear), and the times we have killed a bear we actually have had ceremonies and worship, you don't dare anything else. (...) I am convinced he has power to take*

*revenge if you don't watch out... It is said that the bear and the Sami have an agreement, there is tales about that... The Sami realized that one must sleep and humans don't have night vision, and the bear has another capacity for smelling... I see the picture before me, when he rode away on the bear when they had made their agreement, we have a communion with the bear that he will be allowed to feed himself, but just so he can get his fill and nothing more... But he is also supposed to protect the herd. (...) I have not been able to study it, but I know that other carnivores have great respect for the bear...*

#### **4. Relationship to wolves**

As for the wolf, the replies were very similar among the informants, typically negative and unforgiving. The reason for especially disliking the wolf was its hunting technique which causes the reindeer herds to scatter, causing the herders massive amounts of additional work, apart from the actual loss of livestock. All informants agreed that the wolf and reindeer husbandry is incompatible. A recurring story was that in past, reindeer herders had lost all their livestock, become "reindeer-less", because of the wolf. This was used as a justification for wanting wolves off the reindeer herding area in the present day.

*Sven: Yes, he (the wolf) is the worst, there exists nothing worse.*

*Hans: You see, if there is a wolf, no... it's the worst there is since he scatters (the herd) so terribly and then he kills. (...) You know, in the old days he could kill so that a whole family went bankrupt. I heard he chased the whole herd over a cliff's edge. They went reindeer-less. Then we had a relative who lived down by the lake and received 300 reindeer, and they had such bad luck that the wolf took them all (...) they became fisherman Sami again.*



Sven: *One has heard stories since way back, why so many Laps, as we were called then, stayed down in the lowlands and started farms. It was because they had gotten a wolf among the reindeer and lost them all, they had lost control over the reindeer (...) he does not only kill, he scatters as well.*

Ingrid: *Times change. (...) We lived in a kåta and heard stories about... The wolf is simply the worst, that... Come what may, as long as it is not the wolf. And we thought, no worry, because there are no wolves, but now we live in a reality that the wolf (...) will be around increasingly. (...)*

When asked if there was a reasonable level of wolves to occur, as with the other carnivores, they replied:

Ingrid: *There we have zero tolerance*

Sven: *Sweden has had zero tolerance way back, if you start to read the history. (...) and the wolf has not been living in Sweden after all, so the Swedish wolf population is not unique in any way. Because he descends from the Finnish-Russian population which has several thousands of animals.*

Ingrid: *Of course there were wolves, but then you had the fur hunters as well, they were around, and they hunted, and if there was a wolf in the area you hunted, people worked together, until it was caught. (...) ...as soon as you discovered a wolf track, there was a battue. (...) You could ski into a farm and say I'm pursuing a wolf, and someone else would take over.*

Joel elaborated on the problem with having wolves in the reindeer herding area:

*The wolf, we can't accept it in the reindeer herding area, because it has such a behavior, you know, it doesn't just kill the reindeer, it scatters reindeer herds and it... it makes a rational reindeer husbandry impossible. (...) The reindeer is a creature of habit, and you can teach it to take a certain route when it wanders between the summer and winter pastures. (...) And we had such well-planned reindeer herding in our Sami village that we could predict how the reindeer would act at certain seasons and weather conditions. But the wolf has ruined that for us by now. (...) He (the wolf) scatters the herd in all directions and then they won't return there because it is connected to danger, and then they spread and take other routes, which creates a lot of extra work. (...) For example the lynx can kill tens of reindeer in a single night, but the herd can still remain in the same area. They can still graze a few hundred meters away from where a killed reindeer lies. He can kill many reindeer without knowing it. And then he retreats... (...) The wolf (on the contrary) drives the herd, that is his strategy. He is very strong you know, it's a strong carnivore so he manages to create panic in the herd. And we can for example see that when we have had a visit from a wolf, the calves are chased away from their mothers and become completely apathetic. You can even walk up and pat them.*

Lisa echoed the sentiments of the other informants.

*Wolves and reindeer herding don't go along with each other. They don't, it's a utopia. There is... I have experience of it myself by now. It's in our history, my grand-grandfather became reindeer-less... because of the wolf. And you see, they have a way of moving about and hunting... and that they can appear in packs, and... that they are so powerful and run and move and... no,*

*it doesn't work and they scatter and so forth... You see, we have a strict responsibility to keep our reindeers in check, it is our property, it just doesn't work...*

## **5. Relationship to the government**

The general theme when talking about their relationship to the government was that of disappointment and mutual distrust. Especially the current carnivore policy was heavily questioned, and all informants identified it as the problem for reindeer husbandry in Sweden currently. A main recurring theme when discussing the current carnivore politics was feeling powerless to change one's situation.

*Ingrid: If the predation pressure had not been as severe as it is today, we would have had... really, more money, because now many are forced to take other jobs, to... you can't sell as much calves, you can sell male calves, but not female calves since the herd is not growing. (...) Sweden has lost control over the present carnivore politics. And we have organizations that are sabotaging the management. (...) They say the surface of Sweden is so large, that there can be so many wolves in Sweden. The government has decided that there should be no wolves in the summer pastures, but we spend half of the year in the winter pastures, and it's just as bad to have wolves there. And we want help so that we don't have to have wolves (at all) among the reindeer. (...) Nowadays, we don't even have permission to protect our animals. We have paragraph 28 but it's (for) direct attacks, you have to be there when the carnivore... (attacks)*

Ingrid went on to discuss the psychological effects of having to deal with carnivores under intensive scrutinization by the government and the general public:

*The carnivores wear you down (...) you see the damage that they do and you don't get the help (you need) and it turns into frustration, in the Sami villages, in the family... (...) You have this*

worrying, this psychological part where you think, like (...) if you carry out a paragraph 28 for example, (...) you get exposed a lot, as a Sami village... because the wolf is a very protected animal. (...) For all other people, they don't really understand, they think that "the wolf, it should be allowed to live"... Yes, we agree, but not in our area!

To Ingrid and her family members, the lack of means to change the situation was felt:

Ingrid: ...everything is on government and parliament level, that's where decisions are made, it's there where they say compensation levels should be on this level, the carnivore census should be (like this) (...) It is terribly hard for us to reach up there because we don't have these large lobby organizations that really can carry out lobbying towards the parliament and the government. (...) There are strong lobbyist forces, but we don't have that kind of knowledge and experience (...) ...we don't have the financial resources, either. (...) And the Sami Parliament, they don't have enough resources, either...

Joel had clear recollections of life before and after the carnivores reached the current population size:

When we came to Idre (Sami village) there were only a single reproducing wolverine. (...) There wasn't a bear, there wasn't a carnivore. There were a few eagles. (...) Then we got to see what our reindeer herd could produce, and we can compare with today when (...) we have had both wolf, wolverine, lynx, eagle and bear (...) and now we see that our production has sunk significantly, dramatically. (...) I have some experience with both reindeer and carnivores, so no one can tell me that the reindeer die out of disease. (...) In the first step the challenge (of reindeer husbandry) is of course to deal with all the vagaries of nature (...). But then it is a challenge to try and get acceptance for reindeer husbandry and the needs of the reindeer in

*society. To secure the pastures of the reindeer, etc, that's a major challenge. That is, to say, win acceptance for these Sami rights. (...) We want more influence in land and water management. Without asking for our own state, but... we want greater respect for our rights. Sweden actually receives critique for not observing the international conventions.*

Lisa, too, identifies the current carnivore management as the major issue for reindeer husbandry:

*There are many challenges, but the biggest one right now is the carnivores, and it is not the carnivores themselves but to manage the fact that we don't have a right... first, we are not believed, second, we don't have a right to protect ourselves, in any way. And if we would do it and use the little legal room we have, we are questioned. (...) It is paragraph 28. With that package comes an investigation regarding whether you have made the right decision. So there is no... I think it's that you don't have any power over your own situation, that you can't affect it, I think that's it.*

Lisa, too described how slaughter outtake had diminished with the increase of predator numbers, and the difficulties in receiving adequate assistance from the authorities:

*We slaughtered 93 reindeer, but we used to slaughter 2000 a year. So we developed something called the Jinjevaerie report. We went to the County Administrative Board and said we are going under. Then they told us that in that case you have to present it in numbers, and we worked for three months intensively and presented a 30, 40 pages long report. (...) Nothing happened, we didn't even get permissions for hunting of problem carnivores. So the only thing proved for us is that we don't get any help whatsoever, it's better to just be quiet and deal with it alone. (...) Now, after this intensive period of help-seeking I can conclude that we are being actively worked*

*against. They have decided that we only complain, and also, they are not able to assess the sizes of the carnivore populations correctly but don't want to admit it.*

Lisa also describes distrust from the side of the government:

*They (the authorities) assume that we only want to get rid of them (the carnivores), that, if we would be let loose we would be like some wild cowboys... round the forest and shoot everywhere, and then they're all dead, something like that. It feels like there is such an attitude, and therefore the question never comes, how would you like things to be?*

Lisa further describes being torn between her love for her livelihood and the economic realities:

*Many times I have thought that it would be so easy if I didn't have such a deep relationship (to the reindeer), because then one would have read the balance and concluded that this does not worked, and changed occupations. I have my own business, that is, a regular profit-driven company that creates some profit, but I spend a lot less time on that than on Sami issues... It is because I feel a lot for the land, or the reindeer, really, because the winter is always tough, you are exhausted, you have worked hard and then... every spring-winter you ask yourself what you are doing, why you do it and you think, yes... No, now I've had enough, if I sell I will have this and that much money and can pay off the loans, etc (...) But every year it is the same thing, the fells are calling around this time and you are pulled towards where the reindeer are, and you see the new calves getting born. And it's always the same thing, you have sort of a religious experience in spring, and you think, "sure enough I'll fight for this, because if you give up, then the other side has won. Yes, majority Sweden. Because if we were allowed to do this on our own terms, we would manage and make a living out of it. (I mean) The carnivore management. Because that's what is digging a hole in our purse.*

Another recurring topic was that of intrusions into the pastures by resource extraction and other kind of economic interests. This was identified as a main reason as to why reindeer husbandry has had to change:

Ingrid: *Forestry has made it impossible to conduct reindeer husbandry in the way my father did, when he was out skiing... In those days you could stay in an area and be there... Now those areas don't exist.*

Hans: *They have been logging terribly, so there's no resemblance...*

Ingrid: *...wind power, hydro power...*

Joel described reindeer husbandry as a counterforce to unchecked land extraction policy:

Joel: *The Swedish fell landscape looks as it does today due to reindeer husbandry. I'm not sure it would have looked like this if we had been absent. (...) We are the only kind of workers that see the total chain of events in the landscape. As I said, we wander from coast to coast, we meet all the people. We see when there is a new clear felling for example, we see when there are new roads, we see when there is wind power, hydro power, we see the mine, we see the outdoor recreation, the demands of the hunters... We see all of that, the total land usage.*

For Lisa, land development in reindeer country had colonialist implications:

*There is a massive pressure from all of the Western world right now to use these lands. And I think it's terrible. During hundreds of years, at least for 200 years the Western world have built their riches on the land of indigenous peoples, across the planet. And now the West intends to become environmentally friendly, and it it's supposed to take place on the lands of indigenous people, on their expense, again, I think it is horrible. (...) The environment is supposed to be in a*

*certain way, there are sustainability strategies, it's supposed to be green... This green electricity requires vast amounts of land. (...) And then we are supposed to move over a little, and the companies say, it is such a small part of your lands, you can go a bit in that direction... (...) Where can we go? There is not land for everyone if... we have to move for everyone else. (...) I think there is an agenda for reindeer husbandry in Sweden, I am convinced. (...) That its not necessary to have that many Sami villages. It might be enough with Norrbotten (the Northernmost part of Sweden). (...) Yes, to open up areas for other things. Yes, (resource extraction), tourism, immigration as well. The counties have an outspoken strategy of having a lot more people, and it requires land, it brings disruption.*

## **6. Relationship to majority Sweden – belonging to a minority**

When asked about what it means to be Sami in Sweden today the informants started discussing their relationship with the general public. The main theme of this topic was the latter's lack of knowledge about Sami culture and reindeer husbandry, and subsequent lack of understanding and sympathy of the carnivore situation for reindeer herders. Sven identified a reason for this in the fact that the majority of Swedish people today don't live close to nature:

*(...) But in those days more people lived of what the forest had to offer. (...) Then they don't tolerate competition with the carnivores, they don't tolerate competition with the wolf. But that's a part of Swedish history which is forgotten today. As I see it, now... we live approximately in the same way (as then), and probably a little sheep farmer somewhere is trying as well.*

Ingrid: *...the knowledge among people today has diminished completely because of it (lack of contact with nature)... ...more vegetarians, more animal rights activists, and so on. They protect something they don't really know of.*



Sven: *...if they had known how... what the reality is like, it would have been different. They would have been kinder so to speak. There was one time when we shot three bears here, and all hell broke loose, they called us like crazy and especially one, one woman. But I explained what things were really like, and then they became friendly, “oh that’s akward, we thought you were some kind of savages up there who killed off everything”, and we became real friends. (...) Had they known (nowadays) what reality is like (for us), there would be less (complaints).*

Hans found the general public’s expectation that Sami should live primitively due to their indigenous status frustrating:

*Hans: But you see, it’s like this, reindeer husbandry evolves as well, he does not stand still. It’s like all other development in society, there are no lumberjacks in the forests with chainsaws, now machines take care of that as well. So every time when you end up in a discussion it is “why don’t you use skis, why don’t you do this or that?”. Well, we shouldn’t we be allowed to develop? We’re supposed to live in some kind of medieval age from way before...*

Joel also identified lack of knowledge and prejudice among the general public as a major issue:

*Of course it affects us. (...) All these comments where people can write and spew out virtually anything about reindeer husbandry and the Sami. (...) I question the usefulness of such forums. (...) One concludes that the average Swede has very little knowledge about Sami. Sami and reindeer husbandry. (...) There is very little education in school. (...) Many know more about other indigenous peoples, for example Native Americans in the US and Canada, than what they know about their own indigenous people. (...) So, there’s a lot to do about information, a lot of prejudice exists.*

Joel also expressed frustration with people having unrealistic expectations on Sami as an indigenous people. He also brought up that historically, the average Swede had a lifestyle much closer to that of the reindeer herder:

*One thing that really ticks me off is this (people say) that if the Sami reclaimed their traditional knowledge, they would be able to live in harmony with both wolf, bear, wolverine and all of that, but that's... totally wrong. (...) For example, in the past you had to guard against the wolf, and it is the animal that causes most trouble. But you would still come out on the losing end, many Sami families became reindeer-less even if they stood by their herd and guarded, because you have darkness, you have cold, you have bad weather, you have fog, and in order to guard the herd in such an intensive fashion you need lots of personnel, you had to ask children for help. We have place names up in the fells which when we hear them we know that here there was a reindeer herder that froze to death. (...) So we have proof that that kind of talk is nothing to rely on. (...) Many people believe that nature should be in balance, but then you must remember that the more carnivores you have, the less there will be left for man, and man has always struggled with the carnivores. That was also true for (Swedish) settlers when they came (here) and they brought a cow and a goat and a sheep in a row behind them. When the bear killed the cow, it was catastrophic. They say that reindeer herders are carnivore haters, and that is completely wrong, really. (...) We understand that the carnivores are part of nature, but you can't have... You must have a reasonable size on the carnivore population. It can't just grow so that it renders a production impossible.*

Joel further accounted for the modernization of reindeer husbandry in the following way:

*Of course technology facilitates tremendously. And reindeer husbandry is... If I put it this way, all these infringements, all these cumulative effects from all the intrusions, both from forestry, infrastructure, hydro power, mines, you have wind power, outdoor recreation activities... We unfortunately have to try to adjust to everything this has brought, and then technology is a way for us to deal with it. (...) But of course there is also the fact that we are modern people and want to have a good life and family life. Technology makes it possible that even if you work far from your family you can return home quite quickly and participate in family life, and also, in today's society it is not possible to run around in the fells for months, out of touch with civilization, it doesn't work.*

When asked of her opinion about the idea that the wolf has a right to exist in Swedish nature, Lisa as well expressed frustration with unrealistic expectations on reindeer herders by the general public.

*Great. Let's give nature back to the animals! Then we would do it in a consequent manner, why should we have a city here in Östersund? Östersund was a great reindeer pasture until there was built... (...) Many areas have been claimed, there has been rampant exploitation for the last 100 years in all of the north of Sweden. But give nature back to the animals, it is really nice. We can start travel by ski again, too, if it happens...*

Lisa further described life as a member of an ethnic minority in Sweden:

*It is really tough. It has always been tough. There was a period recently when it was a bit trendy with indigenous culture, and we could ride along. But now the winds are starting to blow coldly again. It always happens... It is probably this national minority law that has done it with the*

*road signs and so forth...You know, the arena has a certain size and now it is supposed to be shared with someone else, then someone has to shrink theirs...*

As a concluding remark, Lisa reflected on the role and place of Sami culture in Scandinavia:

*Sweden and Norway are stupid, we have the only migrating reindeer husbandry on Earth, but it is not utilized at all. They fight with carnivore politics, but take a look at the global perspective, how unique is the wolf? (...) The unique thing about the Scandinavian peninsula is reindeer husbandry, and it is not made use of at all. It is very surprising. If it would happen the problem for us would be that we felt exploited, but that would be a more convenient hell than this...*

#### **4.2. Matching of data against nature and wildlife value concepts**

Below follows a description of what the data above reveal about the informants' orientation in the nature and wildlife value concepts described in chapter 3.

##### **Concept 1: Man's place in nature (Subjugation/Domination)**

Joel describes that a reindeer herder must "yield to the vagaries of the weather and the needs of the reindeer", further, "it all depends on the behavior of the reindeer, what season and weather it is, what the conditions of the pastures are, and so forth". Lisa, in her story about reindeer that won't do as she want, describe the solution not as forcing the reindeer, but rather understand the reason for the behavior and act accordingly. In both cases we find an example of subjugation, to the forces of nature, and the will of the reindeer, respectively. Instead of reshaping their world according to the Western paradigm, the reindeer herders accept that they have to adjust to natural conditions in their daily life.

Further, Lisa's account of performing rituals after having killed a bear in order to appease its spirit connects to this concept as well. This demonstrates that the ancient rituals around bears that Joel talks of are still around in some form. In performing the ritual Lisa acknowledges that there are forces that can't be controlled, but might be persuaded to treat you favorably, if given the proper respect. While the informants in the group interview do not display expression of typical subjugation values, they do not express domination values, either. Overall, **subjugation values** dominate in this category.

### **Concept 2: Perception of nature's value (Intrinsic/Material)**

The informants consistently oppose resource extraction and land development within the reindeer herding area. This is understandable from a purely practical standpoint since reindeer husbandry by its very nature requires vast expanses of continuous land without major disturbances. However, it is also evident that they don't only value the landscape as the source of their livelihood. When asked about the role of reindeer husbandry in Swedish society, Joel brings up the aspect of reindeer herders being vigilant when it comes to land development and points out that they have a broad view of what happens in nature that others might miss, implying that awareness of the degradation of the natural environment is of common interest to both Sami and majority Swedes. Both Joel and Lisa also emphasize that Sami culture never resulted in "concrete monuments", cities, etc. Lisa generally laments the exploration that has taken place in the Swedish north during the last 100 years. Overall, these are more **protectionist values** than traditionalist, clearly displaying an acknowledgement of and appreciation for nature's intrinsic value.

### **Concept 3: Wildlife Value Orientations (Mutualist/Utilitarian)**

Animal husbandry is something of a symbol for the traditionalist way of life where nature should be tamed and utilized for man's benefit, i.e. utilitarian values should be predominant. Upon inspecting the Sami's relationship with their reindeer, however, a different picture emerges. In general, the informants in the group interview are not very emotional in their descriptions about the reindeer, but Sven at one moment mentions "the feeling for the reindeer" as a constant part of reindeer husbandry, living on despite modernization. Further, he at one point shares his view that it is indeed the reindeer and not its herder that possesses the right to live off the land. Joel is clear about having "great respect" for the reindeer, and his desire to treat it with "reverence and respect". Even when inevitably having to slaughter reindeer, respect is an important element, even for the remains of the slaughtered animal. Lisa speaks of "bottomless love" towards her reindeer, and a strong desire to protect them from harm. She further describes seeing reindeer calves being born in spring as a "religious experience" and the prime motivation to carry on with reindeer husbandry despite economically unfavorable conditions. She describes slaughtering reindeer as very hard, that she has to repress her feelings for the animal to some degree to be able to carry it out, telling herself it is for the good of the whole reindeer herd. Overall, this degree of caring for one's animals, feeling an emotional bond towards them, and even ascribing them rights are typical expressions of a mutualistic value orientation towards animals.

Further, these positive emotions were not limited to reindeer, but were also expressed when predators were discussed. Lisa expresses carnivores as "impressive" and that she feels "delight mingled with terror" when observing them. Especially the bear is described as an impressive animal, and Lisa draws parallels between her own motherhood and that of bear mothers, even recognizing common techniques for child rearing. Joel, in turn describes the bear as intelligent

and that it can display fascinating behaviors that makes him wonder about exactly how intelligent it is. Sven in turn describes how his parents had a bear as a “friend”. Overall, when talking about carnivores as a collective and about the bear in particular, there clearly are positive dimensions to their existence, and consistent with a **mutualistic value orientation**.

The wolf however seems excluded from positive descriptions. While both Joel and Lisa both acknowledges it as “powerful”, it is to describe the severity of its destructive aspects. The informants’ relationship with the wolf will be discussed more thoroughly in the next chapter.

#### **Concept 4: Need structure (Post-materialist/materialist)**

Animal husbandry as a lifestyle is commonly associated with materialist values. All informants however claim that money is not their primary reason for being reindeer herders. Ingrid says “this is not just a job, it is a way of life”. She also elaborates on the many ways in which the reindeer is the pillar of the whole Sami culture, their prime source of identity. Joel says money is “not the goal”, but instead refers to pride, being out in nature, and the connection with the animals as the prime sources of satisfaction. Further, Joel too describes how reindeer husbandry constitutes a “strong culture, a strong identity”, for himself, as well as for his children, a source of security. Again, Lisa described her satisfying relationship with the reindeer as the primary joy of her occupation, even concluding that “if it wasn’t so deep, I would have checked the balance and changed jobs”. This overall focus among the informants on non-material values such as self-expression and quality of life indicates a **post-materialist need structure**, in turn being connected to protectionist views.

### 5. Access to social power (High/low)

An overall theme among the informants is dissatisfaction with the current carnivore policy and frustration over not being able to either change it or respond to it the way they would need to. Ingrid talks about lack of resources for effectively carrying out lobbying, and Lisa complains that her efforts to seek help has been ignored, she even thinks that Sami interests are being actively worked against by the authorities. Beside their relationship to the government, the informants also feel exposed to prejudice and lack of understanding by the majority society. Ingrid and Lisa both claim that if they were to utilize the self-defense paragraph 28 and shoot an attacking predator, there will be public repercussion, discouraging them from exerting the little possibility they have to control their situation visa vi the carnivores. Overall, informants generally perceived their access to social power as **low**.

### 5.3. Summary of data-concept matching

Of all themes explored, only “access to social power” was consistent with the theoretical prediction for livestock owners. Overall, the informants displayed mutualistic value orientations towards animals, acknowledged intrinsic values of nature, emphasized non-material values and displayed protectionism.

**Table 3: Summary of outcomes of analysis of nature and wildlife value concepts**

Concept	1.Man´s place in nature	2.Perception of nature´s value	3.Wildlife value orientations	4.Need structure	5. Access to social power
Categories	Subjugation /Domination	Intrinsic /Material	Mutualist /Utilitarian	Post-material /Materialistic	High/Low
Prediction	Domination	Material	Utilitarian	Materialistic	Low
Result	Subjugation	Intrinsic	Mutualist	Post-material	Low
Match	No	No	No	No	Yes



## **CHAPTER 5 – DISCUSSION**

### **5.1.1. Nature and wildlife values of the Sami**

The informants consistently expressed values about nature and wildlife that is more commonly associated with highly educated, high-income urbanites than with rural pastoralists. It is clear that the Sami does not readily fit into this dichotomy, as they seem to have more in common with the urbanites, value-wise, than other rural people. Nevertheless, the Sami are in opposition of the current carnivore management in Sweden, and express high mistrust towards the government. While it is clear that differences in fundamental beliefs of the value of nature are not the issue here, we must look for a different explanation, which might be found in the indigenous nature of the environmental beliefs of the Sami.

While having adopted protectionist values towards nature, as well as a mutualistic way of relating to animals, modern world urbanites ultimately live their lives separated from nature, which might affect their perception of their own place in it. Like Joel points out when discussing the exclusion of people from natural reserves, it is as if man does not belong in nature. By excluding man from nature, we protect it, leave it to its own devices and enjoy it from a distance.

Indigenous peoples, however, fundamentally think that human beings belong in nature, as a natural part of it with all other species. As made evident by Joel's comment about a landscape without humans is strange, this view exists among the Sami as well. In the indigenous mindset, man does not threaten nature, rather, nature can threaten man if we don't treat it respectfully. This is the case with the Native American Ojibwe tribe and their "keepers of the game" concept, as well with modern Sami still performing rituals when having killed a bear to pay respect to its spirit. Thus, both the Sami and Swedish urbanites have mutualistic values towards nature, but

their very definition of nature is different. As we shall see below, this has implications for the conflict about the wolf and carnivore policy in general.

### **5.1.2. Need Structures - Materialism vs Post-materialism**

The informants expressed values more consistent with a post-materialism worldview than a materialist one. It is however unlikely that these values are a result of exceptional material affluence, given the economic hardships the informants were facing in their daily lives. Rather, it could be argued that the informants' focus on non-material values express a form of "pre-materialism" which has survived despite modernization of reindeer husbandry and demands for profitability from the rest of society. Lisa's comment about living in a "market-based world" contrasting it with living in a "biological world" illustrates this, as well as the fact that the demands of the "market-based world" make it harder for the Sami to coexist with the carnivores. In summary, one can argue that despite increasing pressure of majority society, the core of Sami reindeer herders' priorities in terms of need structures remains intact.

### **5.1.3. The Sami and the Wolf – an issue of social power**

The Sami experience significant public backlash through rejecting the presence of wolves in the reindeer husbandry area. On a first glance, their stance might seem unforgiving and standing in contrast to their self-purported holistic view of the natural environment. It is however important to understand, that while reindeer herders might be rejecting the wolf wholesale, this is done in a context where defending against it have severe legal as well as social implications. While the wolf has always been a competitor for their livestock, the wolf has now taken on additional negative connotations through its high level of protection and public support, which contrasts with the Sami's relative lack of social power and sympathy among the general public. While the

wolf might always have been a troublesome animal for reindeer husbandry, possibly also more so than the other large carnivores, to the Sami it has now also become a powerful symbol of the Sweden majority society's disregard of, and even opposition to, Sami interests. To majority Sweden, however, the wolf is a symbol of environmental comeback and natural integrity, and the Sami point of view is interpreted as backwards and environmentally unsound. Thus, the wolf, as a projection surface for conflicting perspectives, but in this case, not necessarily conflicting basic environmental values, becomes a source of polarization between the Sami and pro-wolf stakeholders. At such, it also becomes the focal point for the clash between conflicting views of how what is a healthy environment, and what sort of management is appropriate for achieving it.

#### **5.1.4. Conflicting views of “nature”**

As protection values become increasingly prominent in the majority society, they are being superimposed on the reindeer husbandry culture as well, with significant social friction being the result. However, it is not lack of concern of environmental issues on the part of the Sami that causes friction with majority Sweden. Rather, it is the failure of majority Sweden to understand and acknowledge that protection values are very much present in Sami culture as well, however in a form relevant to the conditions of their specific situation, which causes the friction. All informants expressed frustration with this, the fact that their understanding of balance in nature, a balance where man has a place, is not recognized, and they are not entrusted with maintaining this balance, despite hundreds of years of experience of doing so. To add insult to injury, majority Sweden add another kind of pressure in the form continuous exploitation of traditional Sami land, extractive activities that very much are a manifestation of materialist, utilitarian values. Even when such land development has politically “green” purposes, such as production of renewable energy, the effects on the landscape is one of environmental degradation, which is

mostly felt by the reindeer herders living there. Lisa even refers to this as a new wave of colonialism, where “clean energy” is produced by, and mostly for, majority Sweden at the cost of the Sami. The result is a resounding “do as we say, not as we do” from majority Sweden, as the same outside force that demands “eco-friendliness” from the Sami and scolds them for not measuring up to the standards of their definition of it, itself perform actions that are very much the opposite.

Seemingly, we have two different views of “environmentally friendly”, a Swedish one and a Sami one, each with different priorities. While the Swedish agenda focuses on clean energy production and conservation goals for individual animal species, such as the wolf, the Sami are more concerned about the overall integrity of the natural landscape they operate in. It can be discussed which one of these views is more correct. As for land development for renewable energy, the negative environmental effects on a local/regional level are very real in terms of disrupted connectivity affecting the migration of reindeer, and subsequently, the practices of reindeer husbandry. The reindeer are dependent on a high degree of connectivity in the landscape in order to successfully carry out their migration, and consequently, to provide their ecosystem service in the form of vegetation maintenance by grazing. Large portions of the biodiversity in subarctic Sweden are dependent on the reindeers’ continued success at doing so.

Large carnivores, however, are not among those species. It has been demonstrated that if left alone by humans, large carnivores are capable of surviving or even thriving in comparatively degraded landscapes with low levels of biodiversity, much like the moose is capable of thriving in industrial forest. To environmentalists, the wolf is typically a symbol of ecological reconciliation and environmental integrity, given its important regulatory function as an apex predator, as demonstrated in Yellowstone National Park. In the context of Northern Sweden

however, a healthy population of the wolf might not be a good indicator of an overall healthy environment, given its high tolerance for environmental degradation. Rather, continued annual migrations of the reindeer and enough green infrastructures to support might be the reliable indicator. In order to control reindeer population size in Sweden the wolf is not necessary since another apex predator, man, in the form of reindeer herders, is already doing that. Further, the wolf won't oppose further land development to protect the rights of the reindeer, but the reindeer herders very much do. While the wolf undoubtedly exerts a huge environmental influence on ecosystems where man is not present, such as Yellowstone National Park, it is rightfully deserving of its status as an environmental icon. However, this iconic status might not make the wolf ecologically relevant for natural systems where man is the primary influence. For such contexts, such as the reindeer husbandry area, it is important to look beyond the political and symbolic status of the wolf in order to make a sound assessment of its true ecological value.

## **5.2. Conclusion and Recommendations**

At first glance, reindeer herding Sami might seem like the classic rural pastoralists protecting their economic interests, and as such being opposed to environmental policy. Further investigation however reveals that this is not the case. Despite having undergone significant technological development and being organized in profit-driven companies their original mutualistic, protectionist view of nature and wildlife, characteristic for indigenous peoples, is very much alive. Thus, the conflict around the wolf in Sweden is not foremost a conflict of clashing environmental values along the utilitarian-mutualistic value orientation scale, such as the case with the Greater Yellowstone area. Rather, it is a conflict between two different mutualistic value systems, each with their own definitions of a healthy environment and different priorities for achieving it. While the environmental agenda of majority Sweden prioritizes

charismatic animal species like the wolf, the Sami prioritizes the integrity of the natural landscape. Thus, the dichotomy of utilitarian/traditionalist-mutualist/protectionist values associated with the rural-urban boundary, as described in previous literature, is not really applicable here. Clearly, when studying the human dimensions of human-wildlife conflicts where one of the stakeholders is an indigenous people, it is important to not assess the situation only through the understanding of nature and environment held by the majority population of the region, since the true position of the indigenous then might get misinterpreted.

Conflicts involving indigenous peoples, who are typically underprivileged, must also be understood from a perspective of social power. The Sami, already pressured by various infrastructural, legal and moral infringements of their way of life rejects the wolf, maybe not foremost as an animal species, but as a symbol of governmental oppression. Fundamentally, it is a story of miscommunication and mutual distrust between the Sami and majority society, involving a great lack of understanding and sympathy for the Sami position. It is clear that the Sami are not foremost opposing carnivores themselves, but the management of these, and the fact that they have little to no saying in this issue, although they are among those feeling its effects most acutely. If the Sami are given a higher degree of participation in planning, decision-making and management of carnivores, as well as in other issues affecting them, the social tension between them and the government is likely to relax. The Sami have hundreds of years of experience of managing the natural environment in which they have operated, manifested in a wealth of traditional knowledge. For this, they at least deserve recognition and respect. Further, if we are prepared to let go of some of our prestige, they surely have things to teach us that are relevant to contemporary environmental management as well. That is, if we are willing to listen to their story.

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