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Caribou people and reindeer enthusiasts in Alaska and the implications for human-environment relations

Introduction

Reindeer herding or hunting is a basis for livelihood and a central element in many northern cultures (Mager 2012: 162). In Alaska, while there are several large herds of wild reindeer, called caribou, tame reindeer were only introduced in the 1890s, as an effort to assimilate Alaska Natives to Western culture (UAF School of Natural Resources and Extension n.d.; Willis 2006). This led to a variety of reindeer-caribou interactions, such as caribou “stealing” herds of reindeer (Finstad et al. 2002; Klein 1980), which have shaped relations to and perceptions of *Rangifer* (a term referring to both reindeer and caribou) in Alaska today.

Despite its relatively recent introduction, reindeer herding has had a substantial impact on the Alaskan cultural landscape. Today, it represents not only an important part of the livelihood and subsistence lifestyle of many communities, but has also established itself as a commercial reindeer industry in Alaska (Mager 2012: 172-174; Simon 1998: iv, 3-4; Rattenbury et al. 2009: 71). The introduction of reindeer herding has further affected human-environment relations, in particular those associated with caribou (Finstad et al. 2002; Klein 1980). Caribou have historically been and still are hunted in some regions in Alaska, where they play a major role for the communities (see, e.g., Mager 2012: 162). To understand peoples’ relation to these animals, an examination of the intertwined history of reindeer herding and caribou hunting is therefore crucial.

While they belong to the same species, *Rangifer tarandus*, perceptions of reindeer and caribou are polarized. I argue that this differentiation is linked to several dichotomies, such as wild versus domestic, nomads versus settlers, cash and commercial economy versus subsistence. The interviews I conducted show that whereas “caribou people” prefer the wildness and freedom that these animals represent, others are attracted to reindeer because they can be handled more easily. The “reindeer enthusiasts”, as one might call them, even view caribou as predators, which take with them entire reindeer herds that revert back to wildness (see, e.g., interview 2). In light of my analysis of newspaper articles and based on expert interviews and participant observation during fieldwork, I argue that one’s preference for reindeer or caribou could be indicative of one’s general orientation with regard to human-environment relations (see chapter on methodology).

This article gives an overview of the historical and current human-*Rangifer* relations in Alaska, with a focus on the cultural implications of the ostensible clash between reindeer and caribou or between people favoring reindeer and people favoring caribou. In particular, my aim is to shed light on how reindeer and caribou are perceived and the importance of this for Alaskans.

After an overview of the methodology, I will examine the different aspects that contribute to the difference in perceptions of caribou and reindeer, such as their association with subsistence or cash economy and with tendencies to live with nature or to control it. Next, I will investigate the role that Alaska's history of reindeer herding, from the introduction of reindeer until today, has played. In the last section before the conclusion, I will analyze the controversy around oil and gas drilling in the Arctic National Wildlife Refuge, of which caribou are a vital part. This case study sheds light on the importance of caribou to some Alaskan communities in order to paint a more comprehensive picture of the contrasting perception of reindeer and caribou.

Methodology

Semi-structured expert interviews

The data for this article stems from participant observation and twelve semi-structured expert interviews, supported by an interview guideline, which I conducted in the framework of a seminar at the University of Vienna in 2015. Eight of the interviewees were scholars at the University of Alaska Fairbanks (UAF) from various academic fields, such as anthropology, biology, and ecology, as well as political sciences. While some of these researchers focused on reindeer and/or caribou, others investigated environmental issues, human-environment relations more generally or diverse aspects of Alaskan cultures. As they have published in academic journals, in newspapers or other media, and work for relevant organizations, they can be considered experts in the method-relational sense of Bogner and Menz's (2009) constructivist approach. They further fulfill Bogner and Menz's criterion of experts in the social-representational sense because they are renowned for their work and their contributions on related topics.

A visit to UAF's Reindeer Research Program was particularly helpful. Since its establishment in 1981, the program conducts research for the development of the reindeer industry, with a particular focus on the Seward Peninsula and the practical applicability of its findings. Research areas include, among others, "meat science", range management and nutrition, animal health, and radio and satellite telemetry. Until September 2019, the program also encompassed a "Reindeer Production Research Herd," to which I was introduced during my stay (UAF Institute of Agriculture, Natural Resources & Extension 2019).

During fieldwork in May 2015, which encompassed three weeks in Anchorage, Fairbanks and Nome, the opportunity for further interviews such as with the editor of the Nome Nugget and members of Nome's city administration arose. In addition, I visited a reindeer ranch, where I could also observe people's dealings with reindeer.¹

A rough interview guideline focusing on the perception of and relation to reindeer and caribou, as well as comparisons to other animals, was used during the interviews, but liberally adapted to the context and the interviewees' interests and knowledge. What is more, interviews 1, 3, and 4 were conducted together with colleagues who had differing research interests. The interviews were then transcribed and analyzed in Austria.

¹ A list of the interviews quoted in this article can be found at the end. They were anonymized to protect the identity of the interviewees.

The responses in the interviews do not only mirror the composition of the interviewees, but also the regions in Alaska where the interviews took place. In Fairbanks, reindeer dominated the discussions, perhaps due to the experts' research focus on reindeer, the predominance of reindeer meat in the supermarkets and the relative distance to caribou herds. In Nome, the attention was also on reindeer, as it is one of the main reindeer herding regions in Alaska and the interviewees were more involved in reindeer herding than in caribou hunting. I could also feel an overall concern for the reindeer herding industry, as the migrations of caribou through the region were perceived as a major threat. It is likely that interviews in northeastern Alaska, where caribou are an integral part of the subsistence lifestyle in many communities, would have yielded different results. These views are to some extent included in the article through the newspaper analysis revolving around oil and gas exploration and exploitation in the Arctic National Wildlife Refuge (ANWR). However, in spite of these limitations in the representation of *Rangifer* perceptions, this article contributes to a more varied understanding of human-*Rangifer* relations and the cultural implications of the divide between caribou people and reindeer enthusiasts in Alaska.



Figure 1: Map of Alaskan cities and towns; those marked in red are most relevant for this article (map by Karl Musser / Wikimedia Commons², modified by Doris Friedrich)

Analysis of (daily) newspaper articles

In addition to data gathered during fieldwork, an analysis of newspaper articles complements the picture of the role of *Rangifer* in Alaska. In order to add the contrasting role of caribou in

² <https://commons.wikimedia.org/wiki/File:Gulfofalaskamap.png>

the case of ANWR to the picture, the newspaper articles were selected using the search term “ANWR” on the website of the *Alaska Dispatch News* (now *Anchorage Daily News*), the most widely read newspaper in Alaska. A preliminary search in the *Alaska Dispatch* yielded more than 60 articles written in 2015 or earlier. As a result of then-U.S. president Obama’s proposal to designate additional areas in ANWR as wilderness and therefore block oil and gas development in winter 2014,³ the discussion around ANWR flared up once again in the newspapers from October 2014 until April 2015. Because of the great number of articles, the search was limited to the period from January to April 2015, which yielded over 20 results. Whereas a few of the articles are seemingly objective and categorized in the newspaper’s “energy” (e.g. DeGeorge and Herz 2015), “environment” (e.g. DeMarban 2015) or “politics” (e.g. Forgey 2015) sections, most of them are designated as “commentaries” (e.g. Brower 2015; Johnson 2015). Some articles are not categorized as “commentaries”, even though they are markedly subjective, and a great majority of the authors clearly indicate their position and opinion (e.g. DeMarban and Rosen 2015).

The analysis of the articles and the process of inductive coding resulted in a list of codes, which were subsequently summarized into categories. After the analysis of the articles sampled, it was determined that saturation of content had been reached, since additional articles did not add new information or content, or added very little. I will explore the topics that emerged from the codes and that are relevant to human-*Rangifer* relations in a case study later in this article.

Field research in Nome, Seward Peninsula

Nome, where some of the interviews, informal conversations and site visits were carried out, is located in eastern Alaska, on the southern Seward Peninsula coast of Norton Sound, off the Bering Sea. With less than 4,000 inhabitants in 2018 (U.S. Census Bureau n.d.), the city is known as the end point of the Iditarod Trail Sled Dog Race. According to the website “Nome Eskimo Community” (n.d.), its members encompass “Central Yupik, Inupiaq, St. Lawrence Island Yupik and American Indians whose lineage is tied to Tribes in the Lower 48”. According to the 2018 American Community Survey estimates (World Population Review 2020), 54.8 percent of Nome’s population identifies as “American Indian and Alaska Native”, 29.5 percent as “White” and 11.5 percent as “Two or More Races”.

Alaska is home to around 32 caribou herds; the Western Arctic caribou herd’s range extends onto the Seward Peninsula. It is Alaska’s largest herd with an estimated 325,000 animals (ADF&G n.d.). Nome is moreover the cradle of reindeer herding in Alaska, as will be discussed in the overview of the history of reindeer herding in Alaska later in this article.

A visit to the Midnite Sun Reindeer Ranch north of Nome, whose owners I met by chance in a small café in Nome, gave me a better understanding of reindeer herders and their knowledge of and relation to reindeer and caribou. When I was invited to spend an afternoon there, I was explained the challenges of reindeer herding in Alaska and the development of the industry and the ranch over the last years. It was also where I met “Brownie”, an orphaned reindeer that was

³ More recently, the lifting of the drilling ban was included as a “backdoor drilling provision” in an unrelated Republican tax reform bill under the Trump administration and approved in December 2017 (Chow 2017).

adopted by the family and had become very tame. His special status shows the multiple ways in which members of the same species, *Rangifer*, can relate to and be associated with humans, as will also be discussed later in this article, in the section “Training reindeer, training dogs”. The Ranch was founded in 2010 by the Davis Family. In addition to making reindeer produce, they offer informative tours and educate youth about reindeer herding. In 2015, they further started a fundraising petition for a mobile slaughter unit, which would enable them to slaughter animals year-round and contribute to increased food security in the region.

The fieldwork also encompassed an interview with an employee of “Kawerak”, an organization whose goal is to preserve the region’s indigenous cultures and “meet the needs of the people of the region through strong collaboration and cooperation with all 20 tribes” (Kawerak n.d.). It was established as a regional nonprofit organization in 1973. Its vision is to “have strong, healthy, proud, caring, unified, pro-active, self-sufficient Native people, leaders and communities who know where we are going and who will take necessary steps to achieve it” (Kawerak n.d.). Kawerak’s Reindeer Herders Association supports 21 members in their development of a viable reindeer industry.

In the following, I first examine the results of my interviews and observations during fieldwork, which I then further illuminate through a review of the relevant literature and an account of the history of reindeer herding in Alaska. After that, I have a closer look at the role of caribou for some of Alaska’s communities, in particular in relation to the controversy around oil and gas exploration and exploitation in the Arctic National Wildlife Refuge (ANWR).

Reindeer versus caribou: a division running through Alaska

A recurring theme in the literature as well as in the interviews is reindeer-caribou interactions, their biological and ecological consequences, the impacts on reindeer herding as well as the resulting changes in human-reindeer or human-caribou relations (see, e.g., Mager 2012; Willis 2006, interview 3, 4). The preference for reindeer or caribou appears to be a demarcation line in Alaska and might be indicative of a person’s relations to the environment and general worldview.

Even though they are the same species, reindeer differ in some physical and behavioral characteristics from caribou, such as the shape of their antlers, their colors, their reaction to humans, differences in winter feeding behavior, etc. (Mager 2012: 170). In the interviews (interviews 1-5), a clear distinction between reindeer and caribou was made, without exception. Although the informants recognized that reindeer and caribou belong to the same species, they could discern several behavioral and physical characteristics that differentiate the two and enable herders to recognize if an animal is a reindeer, a caribou, or even a hybrid called “reinbou” (interview 5). The physical differences include earmarks on reindeer (cut into the reindeer’s ear by the herder), the “shape or form of those animals”, as well as their strength (interview 3).

One ecologist that I interviewed at UAF described the relation of people to caribou and the role of reindeer in human-caribou relations as follows:

Something has evolved. This has been going on since thousands of years. So they have a very fragile, sophisticated, deep relationship with caribou. People who work, who live on caribou, make a living there, can tell you very subtle differences that you and I cannot even detect. And if you know how animals behave and what they do, that is very different. But the caribou situation in Alaska in many instances, on the coast and... in Seward Peninsula, has been modified with reindeer... (interview 4)

How Alaskans consider reindeer or caribou varies widely, depending not only on the region in Alaska, but also on the cultural background and the history of the different communities. Some Athabascan Indians in Alaska's northeast consider themselves "caribou people". A large part of their culture is tied to caribou (Being Caribou n.d.; Gwich'in Steering Committee n.d.). Other communities do hunt caribou, but are more diversified in their subsistence resources, such as the Iñupiat of the North Slope as well as the Iñupiat and Yup'ik of the Seward Peninsula. Around Utqiagvik (Barrow), the largest city of the North Slope Borough, caribou hunting has a long tradition, but access to caribou has varied enormously (Mager 2012: 168).



Figure 2: Reindeer of the Reindeer Research Program at the University of Alaska Fairbanks, May 2015 (Doris Friedrich)

Subsistence and cash economy: putting a price tag on reindeer

One of the differences between reindeer and caribou mentioned by the interviewees is based on the use of the animals or the type of economic activity. Reindeer were compared to cows and

cattle and strongly associated with commercial activity and the so-called cash economy. By contrast, caribou were linked to subsistence economy. The population dynamics of the animals play a role in this classification. Caribou populations fluctuate significantly in cycles of 30 to 40 years, which would make it more difficult to link them to industrial activities (see e.g. Sarkadi 2007). For people depending on caribou hunting, these drastic fluctuations might mean substantial changes in their access to meat. As the reindeer biologist I interviewed explained: “Now, in particular the Western Arctic Caribou Herd is declining. A lot of communities depend upon them for subsistence and we’re all worried the population is declining” (interview 2).

However, this also means that the meat does not have to be purchased, which would be deemed objectionable by some caribou people due to their sentiment that the land, which “produced” the animals, belongs to everyone. Reindeer populations on the other hand are more stable and therefore allow the herders – at least potentially, absent socio-economic pressures – to generate a steady income (interviews 2 and 4). In the last decade, there were efforts to revitalize the reindeer industry: “Now they’re gonna try what they call ‘revitalize’ the reindeer industry” (interview 3). The promotion of the industry is also the reason why the Midnite Sun Reindeer Ranch in Nome established the Reindeer Club, where kids can learn about reindeer herding, as well as the Reindeer Youth Summit (Hovey 2017; Kazmierski 2019).

The categorization of reindeer and caribou as belonging to commercial activity and subsistence economy, respectively, affects several other aspects of human-*Rangifer* relations and is evident in the following summarizing quote: “Then the caribou are wildlife. They can just be consumed, where reindeer are property livestock that can be sold” (interview 2).

Interviewee 4 further hinted at a racial division stemming from the association of reindeer with white people:

The reindeer herders are certainly running stuff for money. If you look at the people who really make money out of reindeer herding, there are probably many white people involved and many banks involved. Financing, it’s an investment project... So it’s an investment issue and that’s with reindeer too. The people who really have the right to sell reindeer meat or to make money, that’s not the people we thought they would be. (interview 4)

From this one statement, it is impossible to generalize, but it suggests potential tensions between cultural groups, as well as between indigenous and non-indigenous Alaskans. More research is needed to get a better understanding of the connection between ethnic, cultural or identity fault lines and human-*Rangifer* relations.

Inherent in the animals’ use in the cash economy or for subsistence activities are ideas about their wildness or tameness. While subsistence is based on “wild” natural resources and human adaptation to their yearly cycles, in the cash economy, resources are managed and controlled in order to generate a stable supply (interview 2, 3 and 4).

Wild or domestic: living with nature, controlling nature

The wild-domestic dichotomy is central to the differentiation of reindeer and caribou. Whereas reindeer are considered domesticated, tame or semi-wild, caribou are viewed as “totally wild”, to the point that rounding them up in corrals by accident may lead to desperate efforts to get

free and sometimes results in lethal accidents (interview 3). This wildness is framed in more positive terms by wildlife advocates, who describe caribou as “in a classic way [...] as pristine as it gets. If you believe in pristine nature, that’s it. Can’t be better than that. So the reindeer are not so pristine” (interview 4). The “wild” perception of caribou, which are often used as a symbol, is likely to contribute to general perceptions of Alaska as wilderness and pristine nature, including by tourists.

Some interviewees (e.g. interview 4) preferred the wildness of the caribou, which they perceived as more “natural” or belonging to/in nature and seem to reproach reindeer for their domestication. On the contrary, others (e.g. interview 2) viewed the domestication and tameness of reindeer, which can more easily be directed and controlled, as preferable. For them, caribou are predators, as will be discussed below. This might in a way be related to the interviewees’ general attitude and relation towards nature. The desire to control and dominate nature, based on Western ideas of nature, can be contrasted to living with nature, being in dialogue with it and depending on it. In Pálsson’s words (1996: 66-76), the difference is between an orientalist versus a communalist orientation to human-environmental relations. The latter perspective can often be found in Alaska’s indigenous cultures (see, e.g., Mohatt et al. 2004; State of Alaska Department of Health & Social Services 2018; Thornton 2001). The ecologist I interviewed at UAF (interview 4) affirmed the association of the philosophy underlying reindeer herding with “Western” culture. The thesis that the perceptions of reindeer or caribou are linked to a general view of human-environment relations was further confirmed by a reindeer biologist (interview 2):

We do have the two systems, human-*Rangifer* systems: the caribou system and the reindeer system. There is some overlap, but they have very different... I guess goals in their actions. One is subsistence-based and it’s more taking what the environment gives, with very little control of the environment. The human-reindeer system is different, it’s more... more ‘control the environment.’ Controlling, managing the reindeer and how many reindeer we have, where we put them, how we graze them, what we do with them when we slaughter, how many we slaughter, what we do with the meat. (interview 2)

Nomads and settlers

Another difference between reindeer and caribou is the movement of the herds in the landscape, which links back to the wild-tame dichotomy. Reindeer have been bred to show “site fidelity”, staying in the same areas usually without wandering off. In addition, in case of danger, they come together as a group. Quite the opposite, caribou wander around and will disperse when predators approach or if they feel any other danger (interviews 2 and 3). I therefore argue that even though both reindeer and caribou have their annual migration cycle, caribou could be compared to nomadic groups, while reindeer are more comparable to settlers. Despite the lack of further information on perceptions of the caribou’s “nomadism”, the comparison of human settlers and nomads with *Rangifer* “settlers” and “nomads” is intriguing and would be an interesting area for further research.

The difference in migration patterns has an impact on the qualities of the meat, which is more tender in the case of the reindeer and considered tastier by some. By contrast, caribou’s long annual migrations and general increased level of movement lead to the build-up of endurance

and “sinewy muscles” (interview 3). The differences in movement and migration therefore reinforce the attribution of reindeer to commercial activity and cash economy and of caribou to subsistence economy on several levels.

The encounters between domesticated and wild animals of the same species, as is the case when they share the same space, result in dynamic interactions with highly symbolic content and substantial implications for human-*Rangifer* relations, as the next chapter “Caribou as predators” will discuss.

Caribou as predators

An intriguing element of reindeer-caribou interactions is what many herders consider the “predation” on reindeer by caribou. This happens when caribou herds encounter reindeer, which are then likely to join their wild counterparts. According to the relevant scholarly literature as well as newspaper articles, caribou predation is one of Alaskan reindeer herders’ main problems and therefore has a substantial impact on how caribou are perceived (see, e.g., Finstad et al. 2002: 35-36; Mager 2012: 166-168).

Caribou herds undergo drastic cyclical population changes. The Western Arctic Caribou Herd (WACH), for instance, increased from around 75,000 to 463,000 animals from 1976 to 1996. Historically, during its annual migration, the WACH used pastures on the Seward Peninsula, where the majority of Alaska’s reindeer herds are now located, but shifted eastwards in the early 1900s and disappeared from the area. However, during the 1940s, at the same time as the numbers of caribou increased, the WACH’s seasonal range use shifted westwards again onto the reindeer pastures (Burch 2012: 25, 118; Finstad et al. 2002: 33). Reindeer tend to follow caribou herds passing by, and as a result, of the caribou migration reindeer herders lost 75 percent to 100 percent of their herds, effectively decreasing the number of reindeer herders (Finstad et al. 2002: 33). Finstad et al. (2002: 33) evaluate the herders’ economic loss of over 12,000 reindeer at thirteen million USD. Carlson (2005: iii) speaks of losses to the regional economy of 1.4 million USD per year.

After its peak in the 1930s, reindeer herding in Alaska thus declined or “crashed” in the 1940s and 1950s, which had an important effect on the herders, the local economy and perceptions of caribou. The herders’ hardship was exacerbated by the mismatch between the herders’ perspectives and the assumptions of administrators, who considered caribou issues as easily resolved through more careful herding (Mager 2012: 162). In the literature of that time, range conditions and predation by wolves were discussed more often than interactions with caribou. Moreover, apart from the loss of reindeer to caribou, economic, cultural, ecological, and administrative factors have played a role in the demise of the industry (Mager 2012: 163).

The interviews support the perception of caribou as predators or even as “mortal enemies” (interview 2). On the Seward Peninsula, reindeer herders have lost a considerable number of animals to caribou migrations passing through reindeer ranges. Caribou are consequently seen as “interfer[ing] with their business” (interview 4) and thus as a threat to reindeer herding as such:

“Yeah, there are interactions. If you see it from a commercial perspective, reindeer is a highly money-type of deal, so from an investment perspective you don’t want a crash,

you want a stable income. So if you have interactions with the caribou, they might interfere with their business. So people start to complain.” (interview 4)

Training reindeer, training dogs

A comparison of how humans relate to *Rangifer* and various domesticated animals can shed light on people’s perceptions of reindeer. Dogs and reindeer often cohabit in reindeer herding communities. Traditionally, both animals were used for transportation, for example, by pulling sleds. After one interviewee compared the relationship that people sometimes have with their reindeer to the relationship one could have with his dog, I started to ask other interviewees whether the two relations are comparable. Some confirmed the similarity, albeit with qualifications, such as differences in training (interview 2). Others did not see much in common between the two species. One interviewee referred, for instance, to reindeer herding cultures in Siberia, where dogs are valued and treated very differently from reindeer. Even dogs with different functions receive widely different treatments, e.g., shepherd dogs are valued more than sled dogs and treated better (interview 5). In Alaska, dog teams seem to be more commonly used for transportation than reindeer (Hill 2018: 88; VanStone 2000: 135). Dog teams are trained to pull sleds, either for touristic purposes or as a hobby to compete in races, such as the famous Iditarod or the Kuskokwim 300.

Another question I raised in the interviews was whether and how reindeer were trained for specific purposes and if some could even be considered as pets. Despite the fact that reindeer are considered as domesticated or even tame, Alaskan reindeer herders do not train reindeer or keep them similarly to pets, apart from the early days of reindeer herding in Alaska and a few exceptional cases (interview 3). One such exception was “Velvet”, a “pet reindeer” that could often be seen riding in his owner’s pickup in Nome. This has a profound impact on human-reindeer relations. Through training, the bond between reindeer and humans becomes stronger and reindeer come to be associated as “social partners”, as a cultural anthropologist I interviewed (interview 5) explained in the case of a Siberian community. Some of the reindeer there can even be considered as “pets”, with which the herders have developed an intimate familiarity that is otherwise rare in the region. He also alluded to stories of Alaskan Elders’ relation to reindeer in the early days of reindeer herding in Alaska: “We even here have stories in Alaska from Elders who had grown up with reindeer, so you know, they were like pets” (interview 5). This knowledge and practice seem to have been lost or are not widespread.

In addition to this comparison with other animals, the different perceptions of reindeer and caribou can perhaps also be explained by Alaska’s history of reindeer herding, beginning with the introduction of reindeer in the 1890s, the pervasive outside influences at work, and the developments until today.

History of reindeer herding in Alaska

The introduction of reindeer in Alaska

In the interviews conducted during fieldwork, the rather recent introduction of reindeer to Alaska and the history of reindeer herding or caribou hunting in Alaska were often mentioned,

suggesting that this history has a considerable effect on today's perceptions of reindeer and caribou, as well as human-reindeer and human-caribou relations in Alaska (interviews 3, 4, and 5).

Caribou have historically roamed Alaska. However, they have never been tamed or domesticated as in other Arctic regions. Reindeer are the same species as caribou but have been domesticated. Compared to their "wild cousins", they were introduced to Alaska only recently in the 1890s by the missionary Sheldon Jackson, together with captain Michael Healy, who wanted to save Alaska Natives from a mistakenly perceived starvation (UAF School of Natural Resources and Extension n.d.; Willis 2006). Jackson believed that the starvation of Alaska Natives would impede his educational efforts and saw a stable food source in reindeer herding. In addition, he thought that teaching Alaska Natives the practice of reindeer herding would "civilize" and educate them. After a trial on the island of Unalaska in the Aleutians, Jackson delivered 171 reindeer, which he had bought in Siberia, to the newly established Teller Reindeer Station near Nome in 1892.

The Siberian Chukchi reindeer herders, who were hired to teach Alaska Natives how to handle and care for the reindeer, failed to convince the missionaries of their qualities and herding capabilities. Some of their handling practices, such as using urine to guide the animals or drinking milk directly from the does' milk sack, were perceived as "savage" and contrary to the desired purposes of the undertaking, namely to civilize Alaska Natives. The Chukchi herders' initial temporary contracts were consequently not renewed. In their stead, after substantial difficulties to recruit suitable herders who were willing to take on the job, sixteen Sámi reindeer herders from Scandinavian Lapland were hired as new teachers. They arrived in Alaska in 1894. After overcoming initial communication difficulties between the Sámi and their Alaskan Native apprentices, often from Inuit, Iñupiaq or Yup'ik communities, the groups warmed to each other. Nevertheless, the Inuit were resistant to the nomadic way of life of the reindeer herders and disliked the work and tasks of reindeer herding, which they perceived as tedious (Willis 2006: 286). In the academic literature, it is debated whether the Iñupiaq worldview and their traditional subsistence cycle, such as spring whaling, were compatible with the requirements of pastoral reindeer herding (Lantis 1950; Sonnenfeld 1959).

Despite the initial cultural setbacks at that time, Jackson was eager to expand the reindeer program, with the additional idea that it could be a good way to teach Alaska Natives how to be capitalists and develop a vast commercial reindeer industry. This coincided with the discovery of gold in the Klondike and the ensuing gold rush. Jackson and other government officials feared that the 4,000 to 5,000 miners would starve during the winter when it would become impossible to bring supplies over the frozen Yukon River. As a countermeasure, Jackson travelled to Scandinavia to bring more reindeer and Sámi families to Alaska.

However, after a review of the reindeer program in 1905, which concluded that the program did not benefit Alaska Native herders as expected, Jackson was replaced and the government changed the regulations pertaining to Alaska Native reindeer herding, so that it would be easier for them to buy reindeer and generally easing restrictions of ownership. There was also an effort to integrate reindeer into Alaska Native culture. For the purpose of creating a "reindeer culture", the concept of "Eskimo Reindeer Fairs" was developed. There, herders came together and celebrated, shared reindeer herding strategies, wrote songs, etc. Intended as an agent of cultural

change, reindeer herding was actually incorporated into Iñupiaq culture and reinforced traditional Iñupiaq values and identities (Mager 2012: 163).

A certain Alaska Native reindeer culture was indeed created, only to be challenged shortly thereafter by the Lomen Company. Established in 1914, the company started to purchase reindeer herds and became a dominant player in the reindeer industry to the detriment of the Native herders, who filed a series of complaints. Meanwhile, an influenza outbreak in 1918-1919 killed many herders, leading to free roaming, unattended reindeer herds, rapidly growing in numbers and overgrazing the ranges. Eventually, in the fall of 1937, Congress passed the Reindeer Act, which restricted the ownership of reindeer to Alaska Natives. This excluded the Sámi reindeer herders and forced them to sell their herds (Willis 2006: 300).

Mythologies of human-*Rangifer* relations

A geographic comparison of Alaska's reindeer-related culture is instructive and offers good insight into the importance of reindeer herding and the ways in which the non-Native introduction of reindeer has influenced the animals' integration into Native communities. In contrast to mythologies of reindeer herders in Siberia (see, e.g., Vitebsky 2005; Willerslev 2007, 2012), where reindeer herding has a longer history, the Alaskan interviewees did not know of any myths or legends in Alaska involving reindeer. Myths involving caribou were not mentioned either. This is likely due to the short time span of herding in Alaska and the geographic location of my observations and interviews in reindeer herding regions rather than regions predominantly used by caribou herds. One interviewee (interview 5) contrasted the myths and rituals involving reindeer in Siberia to the ones in Alaska. He found that in Siberia, reindeer and reindeer herding are central to many rituals, which include sacrifices of reindeer. Shamans might also symbolically marry the daughter of a wild reindeer or another wild animal to become more powerful and respected. There is thus a lot of spiritual value associated with caribou or reindeer. This is also obvious in some social events, such as reindeer races (see, e.g., Plattet 2004: 465, 2006: 9, 16). All these elements are absent in the Alaskan reindeer herding culture, even though in other regions in Alaska there might be comparable myths or rituals involving caribou, as will be discussed in the case study in the next section on the role of caribou in the controversy around oil and gas exploration and exploitation in the Arctic National Wildlife Refuge (ANWR) in northeastern Alaska. In contrast to the Seward Peninsula, there is currently no reindeer herding in ANWR that could be impacted by the caribou herd roaming the region. Despite some efforts in the 1920s to establish reindeer herding in the ANWR area, this era ended when a reindeer herd was driven to the Barter Island area in late 1937 in order to stock up the local reindeer herds after severe winters had decimated their number. The driven herd unexpectedly changed course and turned back toward its home range, taking most of the local reindeer in ANWR with it, effectively discouraging reindeer herding in the area (Arctic Power 2014).

Failure of the herd management systems

In the rest of Alaska, the reindeer population did not fare much better. By the 1950s, it had crashed and shrunk from an estimated 640,000 animals in 1930 to 25,000 in 1950. The reasons

are not exactly clear, but probable causes include starvation from overgrazing, predation by wolves and “predation” by caribou (Willis 2006: 301). The major reason for the demise of Alaska Native reindeer herding is considered to be the considerable increase in the size of the WACH, which concurrently moved westwards into the areas that were used for reindeer herding (Finstad et al. 2006: 31; Klein 1980: 740-741; Mager 2012: 163). Nevertheless, reindeer herding today is considered an integral part of the identity of many Iñupiat and Yup'ik communities on the Seward Peninsula (Mager 2012: 172-174; Simon 1998: iv, 3-4; Rattenbury et al. 2009: 71).

Reindeer-caribou interactions are still seen as problematic for a variety of reasons. In addition to the loss of reindeer to caribou herds, Klein (1980: 739) has argued that the competition for forage and the potential transmission of diseases and parasites have been the main problems of reindeer-caribou interactions. The frequent caribou ingressions onto reindeer ranges in present times call for increased supervision of the reindeer herds and monitoring of the movements of both reindeer and caribou. These environmental challenges combine with socio-economic pressures that render reindeer herding less profitable and therefore increase the need for the herders to spend more time in non-herding jobs. This further undermines the herders' ability to cope with other environmental changes, such as those resulting from global warming (Rattenbury et al. 2009: 77).

Case study: the role of caribou in the ANWR controversy

In this case study, I will analyze the controversy around oil and gas drilling in the Arctic National Wildlife Refuge (ANWR), of which caribou are a vital part, in order to shed light on the importance of caribou to some Alaskan communities. Since the establishment of ANWR in 1960, it has been fiercely discussed whether the area should be opened for oil and gas exploration or drilling. The Porcupine Caribou Herd (PCH) is central to many arguments in the debate and elicits strong feelings. The discussion around ANWR and the question of whether to allow drilling has existed since the refuge's establishment and continues to be relevant today. In addition to struggles over priorities – oil and gas development versus environmental conservation – the discussion pits not only the State of Alaska and federal decision-makers, but arguably also two ethnic groups – the Iñupiat and the Gwich'in – against each other. In this section, I investigate what the narratives in newspaper articles can tell us about environmental values and the role of *Rangifer* in Alaska. These conflicting points of view and a context very different to reindeer herding in western Alaska contribute to a more complete picture of the perception and role of *Rangifer* in Alaska.

Iñupiaq and Gwich'in communities' perspectives

ANWR has been the homeland of the Iñupiat and the Gwich'in Athabaskan Indians for thousands of years. The Iñupiat village Kaktovik is located on ANWR's northern boundary, the Gwich'in community Arctic Village on its southern boundary (USFWS 2012b). While both groups actively participate in the discussion, their interests are opposed, which according to Pasquale (2002: 245-246) is due to “the Iñupiat Natives representing economic interests, and the Gwich'in Indians representing cultural and subsistence interests.” He points to the parallels

between the situation in ANWR and the effects that the Prudhoe Bay oil production had on both groups: unlike the Iñupiat, who participated in the oil economy and benefitted economically, the Gwich'in did not benefit from the Prudhoe Bay oil exploration and are unlikely to benefit from drilling in ANWR. On the contrary, because of the disruption caused by oil and gas exploration, they could lose their land, their basis for subsistence and, as Pasquale (*ibid.*) argues, their culture.

The Iñupiat and Gwich'in are also in very different legal situations. As the Alaska Native Claims Settlement Act (ANCSA) was passed in 1971, the Iñupiat fell under its provisions and were entitled to leasing revenues from mineral development. Nevertheless, "few will receive any permanent benefits from the acquisition of jobs" (Pasquale 2002: 258). According to Pasquale, the Iñupiat believe that their establishment of the North Slope Borough, which was recognized as a political unit with the authority to tax oil companies on the North Slope, set a precedent and that they could continue their taxing scheme in ANWR. However, ANWR is federally controlled, which is why other provincial political units might not be able to make the same claim (Pasquale 2002: 260-261).

By contrast, the Gwich'in rights were defined in a pre-existing treaty, establishing their rights to certain lands. As a consequence, they did not participate in the ANCSA settlement provisions and therefore have no revenue rights from leasing in case of mineral development in ANWR (Pasquale 2002: 255). In the following, the Iñupiat's and Gwich'in's relations to nature and natural resources are reviewed in order to relate their position on environmental protection to the perceived role and importance of caribou.

The Iñupiat's close relations to nature

Charles Wohlforth (2005: 58), an author and journalist focusing on science and the environment in Alaska, lists as Iñupiat values, "respect for elders, others, and nature; hunting traditions; compassion; avoidance of conflict", which are reflected in the Iñupiat's relations to the environment and animals. Traditionally, spiritual and practical life were not distinguished. The animal spirits, with which shamans could communicate, were viewed as similar to their own. In Iñupiat creation stories, human heroes' attempts to create a world was sometimes supported by animals, and the spirits of animals were often represented as the controlling powers in many myths.

This resulted in associated rites and rules for everyday life, which mostly focus on preparations for the hunt and myths that deal with human-animal-environment relations. They mirror the importance of subsistence activities and often require much effort and sacrifice. Respect for their prey, such as caribou, is paramount and hunting is often subject to limitations concerning the killing of certain animals. Not following these rules and disrespecting animals might make the animals leave and bring bad luck for the next hunt (Wohlforth 2005).

Subsistence is also sometimes connected to environmental conservation, such as in the "Inuit Arctic Policy": "An integral part of Inuit subsistence is an on-going dedication and commitment to stewardship of the Arctic environment, for both present and future generations" (ICC 2009: 30). However, Wohlforth argues that the "wilderness ethics" of non-indigenous people are far from the idea of the Iñupiat and are seen as a "perverse, puritan conception of the outdoors" by

“guilt-ridden people” (Wohlforth 2005: 236). “Wilderness enthusiasts” dissociate wilderness and nature from civilization, carefully keeping the “untouched wilderness” separate from humans. However, the Iñupiat and other indigenous people actually live in this “wilderness”. The laborious efforts of conservationists might therefore come across as cultural imperialism and as a desire to impose external values. This in turn can serve as a blatant reminder of colonial policies that forced indigenous people to assimilate culturally and is often met with resistance. On this topic, the Inuit Circumpolar Council (ICC 2009: 36) writes: “State government policies that continue to deny indigenous peoples their full rights to non-renewable resources and that treat such peoples as obstacles to development are colonial and out-dated.”

Subsistence and related activities are generally considered essential to the way of life and wellbeing of many communities, which evidently increases the importance of caribou and other resources. Two of the reasons for this reliance on subsistence, in particular in rural communities in Alaska, are the high costs of living, including food prices, and the uncertain supply of food products, which depends on external factors such as the weather. In addition, subsistence is seen as a “central part (of) the Inupiat culture” around which many community activities revolve (Brower and Taqulik 1998).

Even though the bowhead whale is the culturally most significant resource of many Iñupiaq communities, caribou are considered the “single most important *terrestrial* subsistence resource” (Brower and Taqulik 1998, emphasis added). For the community of Anaktuvuk Pass in the North Slope Borough, which does not harvest marine mammals, they are even more significant (Brower and Taqulik 1998; Chance and Andreeva 1995: 234). The dependence of Iñupiat communities, even coastal communities, on these animals was confirmed by a researcher on resource policy at the UAF during an informal interview (interview 6).

Gwich'in: People of the Caribou

The Gwich'in are an Athabascan-speaking people, whose traditional homelands are in Alaska and Canada's Yukon and Northwest Territories. In Alaska, there are six Gwich'in communities, of which Arctic Village, Fort Yukon, and Venetie heavily rely on caribou. However, only Arctic Village lies on the southern border of ANWR, while Fort Yukon and Venetie are further south.

The Gwich'in call themselves “People of the Caribou”. Their life and culture have traditionally focused on the Porcupine Caribou Herd (PCH) since these animals are the main source of food, tools, and clothing: “food; skins for their clothing, bedding and shelter; and the bones from which they fashioned fishhooks, skin scrappers [*sic*] and other tools” (USFWS 2012a; see also Gwich'in Council International 2009). In an Al Jazeera article, Charlie Swaney, a Gwich'in of Arctic Village, is quoted explaining some aspects of the Gwich'in relation to the caribou: “You got to respect the animal, because that's what you eat. You don't take too many. What you don't eat, you feed to the dogs. [...] Respect is the main thing.” (O'Malley 2015).

The PCH, which is central to the Gwich'in, migrates in yearly seasonal cycles. The area of the PCH, and in particular the coastal plain where the caribou give birth, is considered “the sacred place where life begins” by the Gwich'in (Cultural Survival 2005). In some of the preferred sites of the caribou migration, Gwich'in communities used to work together to build fences and

corrals and herd the animals along the fences into the corrals, where hunters would surprise them and kill a number of caribou at once (USFWS 2012a; Wray and Parlee 2013: 72).

Reflecting the importance of caribou, the Gwich'in have a set of rules guiding human-caribou relations that they call "ways we respect caribou" (Wray and Parlee 2013: 68). Even though Wray and Parlee catalogue the rules of the Teetl'it Gwich'in of Fort McPherson in Canada, the rules and ideas behind them are likely also valid for other Gwich'in communities. The rules include not talking badly about caribou, not leaving wounded caribou in the field and not wasting any part of the harvested animal. These rules stem in part from the belief that caribou and humans are related and intimately connected:

"In mythic time, the Kutchin (Gwich'in) and the caribou lived in peaceful intimacy... When the people became differentiated, it was agreed that they would now hunt caribou. However, a vestige of the old relationship was to remain. Every caribou has a bit of the human heart... in him, and every human has a bit of caribou heart." (Slobodin 1981: 526)

If the rules related to caribou are not respected, the wellbeing of the people is believed to be at stake due to the reciprocal nature of these obligations. If people follow these rules of respect, the caribou will come back and give themselves to the hunters. If not, the animals may "go away" (Wray and Parlee 2013: 71), which would have serious implications for the survival of the community.

Cultural values and survival

In her book "Living in Two Worlds" (2009), Therese Remy-Sawyer describes the most important principles and values of the Gwich'in: "The law that governed our people was timeless. It is one word: RESPECT" (Remy-Sawyer 2009: 28). In the literature on Alaskan Native beliefs, respect is often presented as a central element, which also holds true for peoples' relations to animals. Langdon (2014: 77, 100) for instance explains that in Yup'ik and Iñupiaq cultures, both of which are represented on the Seward Peninsula, all living beings are attributed a spiritual essence. These spiritual essences are reincarnated or "recycled" cosmologically, in a process controlled by powerful spiritual beings that also determine whether the animals will offer themselves to people so that they can eat them and survive. Respectful relations with animals and other organisms are therefore paramount.

The interviewees that I talked to during fieldwork did not mention specific rules on how to treat reindeer or caribou. However, interviewee 1, at that time an employee in Nome's city administration, explained that in her Yup'ik culture, there are general rules on how to treat all animals. In particular, the ones that are killed have to be shown great respect, as they are considered to have given themselves up for the humans to survive. If these rules are not observed, the animal spirits, which are reincarnated and form new animals, do not come back to the people (interview 1). Relating the respect for animals and their spirits to a more general view on human-environment relations, she referred to the spiritual value of the environment:

"It has a much deeper meaning to us... We have a connection to the land and the animals here. They're the reason that I'm here today, you know, they're the reason that my dad was born and, well, was able to survive, and my grandparents, and going all the way

back to my ancestors. We have a very deep connection – and respect for the land.” (interview 1)

Another dimension implied in this connection is the concept of “taking care”. A poster titled “Eskimo cultural values”, exhibited at the Nome office building of Kawerak, shows just how important this aspect is: nearly all of the twelve values listed involve some aspects of taking care, such as “we take care of our land” and “we have a caretaker we cannot see” (Fieldnotes 27.5.2015).

In the debate on ANWR and the question of whether drilling should be allowed, the cultural values of the two Alaska Native groups most concerned, particularly those revolving around the natural environment, are also being discussed or used in arguments. The idea most mentioned – from both the Gwich’in and the Iñupiat – is that humans and nature are interconnected and, consequently, respect for nature is imperative. As Princess Daazhrai Johnson (2015), a Neets’ait Gwich’in whose family is from Arctic Village, indicates: “We need to recognize that we are interconnected to one another and are a part of our environment – not separate, but equal constituents of our planet.”

Another crucial and connected aspect is the importance and role of caribou for the survival of the communities. Respect is necessary, because the communities’ survival depends on it, as Trimble Gilbert, traditional chief of Arctic Village, underlines: “For thousands of years, the Gwich’in people have lived in the Arctic, taking care of the land and animals. We treat caribou and other creatures with reverence because, without them, we would not survive” (Gilbert 2015).

The question of cultural survival connected to the PCH arises several times in the newspaper articles analyzed in relation to ANWR’s natural resources: “If drilling happened and affected the Porcupine herd – about 180,000 animals – its future would be threatened. And so would the Gwich’in people and our villages” (Gilbert 2015). It is argued that the Gwich’in are so dependent on the PCH that their communities and culture would suffer permanent damage and would not survive if the caribou leave: “The Gwich’in people say that, to us, protecting the refuge from oil and gas development is a matter of human rights. The survival of the Gwich’in Nation is at stake” (Gilbert 2015). What is more, in this case there would be no hope for reviving the Gwich’in’s association with caribou and consequently their culture. Gilbert (2015) further explains: “The damage they leave is permanent. If the caribou go away and the Gwich’in culture dies, it can never be restored.”

Similarly, the Iñupiat also emphasize their connection to and respect for nature, albeit this connection has partially opposing and contested implications according to differing points of view. This connection to nature is sometimes linked to the wildness of the area, as Thompson (2015) suggests: “I see the wilderness designation as the best way to support the Iñupiat value -- respect for the land.” On the other hand, it can also be seen as connected to the use of its natural resources. This argument links the survival of the Iñupiat and their culture to the economic benefits that would arise from drilling in ANWR, as Charlotte Brower, the mayor of the North Slope Borough until April 2016, contends (KTVA 2016):

“Over time, we found our lifestyle threatened when the thirst for resources drove others to our corner of [the] globe... Today, we are under assault by people who seek another resource – wilderness. And just like those who came before them, they threaten the

health of our communities, our culture and our way of life. Lost in all of this hyperbole is the human element of the ANWR debate.” (Brower 2015)

Wilderness – in many instances linked to caribou – in this narrative is opposed to oil and gas exploration, which can be considered the “taming” of nature. In this frame, the Gwich’in cultures could be seen as corresponding to a preference for wildness, whereas the Iñupiat might be associated with an inclination for tameness/domestication.

Despite Brower’s warning that the Iñupiaq culture is endangered without drilling in ANWR, Robert Thompson, an Iñupiaq hunter living in Kaktovik, expresses faith that even without the money that would be earned from drilling, the youth will maintain a traditional lifestyle and practices:

“I do not believe even one of them will not pursue traditional activities because of no oil money. To infer that without oil money the people will leave and those who remain will be dependent on the government for their existence and subsistence is insulting to the young people. The mayor should have more faith in our people.” (Thompson 2015)

Oil and gas exploration in ANWR is thus seen as a threat to the cultural survival and the economic well-being of the Gwich’in, whereas it is sometimes thought that the lack of oil and gas exploration is a threat to the survival of Iñupiaq communities, even though this effect is disputed even within those communities. The issue of cultural survival is tightly linked to the PCH, which is paramount to Gwich’in communities and likely to be negatively impacted, whereas caribou are of less importance to Iñupiaq communities.

Conclusion

Even though reindeer were introduced in Alaska only around 130 years ago, reindeer herding today plays an important role for many communities (see chapter “History of reindeer herding in Alaska”). Caribou have been the basis for the survival of indigenous communities, such as the Gwich’in, since time immemorial. Both reindeer and caribou are an integral part of some Alaskan communities’ culture. However, the interactions between reindeer and caribou are historically fraught, and the unpredictable changes in caribou migration routes represent a danger to reindeer herding, because of the caribou taking some of the reindeer with them, as well as due to other effects. The history of reindeer herding and caribou hunting, and their interactions nowadays, are crucial for understanding people’s relations to these animals.

Reindeer and caribou are perceived very differently and people’s attitudes towards them appear to be polarized (see chapter “Reindeer versus caribou: a division running through Alaska”). Several dichotomies can be made out in these different perceptions: wild versus domestic (see chapter “Wild or domestic: living with nature, controlling nature”), nomads versus settlers (see chapter “Nomads and settlers”), cash and commercial economy versus subsistence economy (see chapter “Subsistence and cash economy: putting a price tag on reindeer”). Whereas “caribou people” prefer the wildness and freedom that these animals represent and are not very fond of reindeer, others are more attracted to reindeer because they can be handled more easily. For the latter, caribou might even be viewed as predators (see chapter “Caribou as predators”). One’s preference for reindeer or caribou can also be seen as an indicator of one’s general view of human-environment relations, a preference for controlling nature or living with nature.

People favoring reindeer arguably subscribe more to the view that natural resources should not only be used by humans, but should be adapted and commercialized, including the taming and selective breeding of animals to adapt them to human needs or uses. People who prefer caribou might oppose the commercialization of natural resources and instead argue that natural resources should be used by adapting to them instead of adapting the resources. One example of this is following caribou on their migration routes and choosing traditional uses of wild animals over the opportunity to gain money from the commercial exploitation of oil and gas resources. These factors have to be taken into account when analyzing or managing *Rangifer*-related issues in Alaska.

In addition, reindeer can also be considered a symbol of colonial efforts to “civilize” the indigenous peoples in Alaska, as reindeer herding was introduced in indigenous communities partly to this end (see chapter “History of reindeer herding in Alaska”). The association of caribou with subsistence and nomadism versus reindeer with cash economy and site fidelity reinforce this image. Besides the practical implications, viewing the caribou as predators that are dangerous to reindeer herds could also be seen as a symbol of the “danger” of a traditional lifestyle to colonial efforts to assimilate indigenous peoples. On the other hand, reindeer herding has also been integrated into and adapted to indigenous cultures.

Compared to reindeer herding in western Alaska, the case study examining how caribou are framed in the discussion around oil and gas drilling in ANWR shines the spotlight on a vastly different region in Alaska (see chapter “Case study: the role of caribou in the ANWR controversy”). In contrast to the Seward Peninsula and other regions, caribou around ANWR are considered crucial to the survival of some communities, whereas reindeer nowadays seem to be irrelevant. In this conflict, caribou have also come to symbolize wilderness and the importance of a subsistence lifestyle to some Gwich’in communities, whereas many Iñupiat are more concerned about the potential economic benefits of the region’s oil and gas resources.

By offering a glimpse into the role of reindeer and caribou in different regions and for different communities in Alaska, this article aims at adding to our understanding of the perceptions of and attitudes toward an essential animal species in Alaska and other Arctic regions. In addition, it contributes to a more comprehensive picture of human-environment relations more generally. These insights might support dialogue between communities with different viewpoints and stakes in reindeer and caribou and could inform wildlife management and associated policies.

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References

- ADF&G. n.d. Caribou – Range and Habitat.
<http://www.adfg.alaska.gov/index.cfm?adfg=caribou.main>. Accessed 9.5.2020.
- Arctic Power. 2014. Residents of ANWR Support Opening the Refuge.
Online at: <http://anwr.org/2014/11/residents-of-anwr-support-opening-the-refuge/>.
Accessed 5.6.2020.
- Being Caribou. n.d. Backgrounders – Caribou People.
<http://www.beingcaribou.com/beingcaribou/backg/people.htm>. Accessed 14.4.2019.
- Bogner, Alexander and Wolfgang Menz. 2009. Experteninterviews in der qualitativen Sozialforschung. In: Bogner, Alexander, Beate Littig, and Wolfgang Menz (eds.). Experteninterviews: Theorien, Methoden, Anwendungsfelder. Wiesbaden: VS Verlag für Sozialwissenschaften, pp. 7-31.
- Brower, Charlotte. 2015. ANWR Worshippers Fail to Consider the Iñupiat. Alaska Dispatch News, 10 February.
<http://www.adn.com/article/20150210/anwr-worshippers-fail-consider-i-upiat>.
Accessed 23.5.2017.
- Brower, Harry Jr. and Hepa Taqulik. 1998. Subsistence Hunting Activities and the Inupiat Eskimo. In: Cultural Survival Quarterly 22 (3).
<https://www.culturalsurvival.org/publications/cultural-survival-quarterly/subsistence-hunting-activities-and-inupiat-eskimo>. Accessed 13.10.2020.
- Burch, Ernest S. Jr. 2012. Caribou Herds of Northwest Alaska, 1850–2000, edited by Igor Krupnik and Jim Dau. Fairbanks: University of Alaska Press.
- Carlson, Stefanie M. 2005. Economic Impact of Reindeer-Caribou Interactions on the Seward Peninsula. Master's thesis. University of Alaska, Fairbanks.
http://reindeer.salrm.uaf.edu/resources/theses/Carlson_Thesis.pdf. Accessed 14.4.2019.
- Chance, Norman A. and Elena N. Andreeva. 1995. Sustainability, Equity, and Natural Resource Development in Northwest Siberia and Arctic Alaska. In: Human Ecology 23 (2): 217-240.
- Chow, Lorraine. 2017. GOP Tax Bill Sneaks Plan to Drill Arctic Refuge. EcoWatch, 15 December.
<https://www.ecowatch.com/arctic-refuge-drilling-2517635533.html>.
Accessed 23.4.2021.
- Cultural Survival. 2005. Gwich'in Human Rights Threatened by ANWR Drilling.
<http://www.culturalsurvival.org/news/united-states/gwichin-human-rights-threatened-anwr-drilling>. Accessed 23.5.2017.
- DeGeorge, Krestia and Nathaniel Herz. 2015. Obama Moves to Block Development in 9.8 Million Acres of Arctic Ocean. Alaska Dispatch News, 27 January.
<http://www.adn.com/article/20150127/obama-moves-block-development-98-million-acres-arctic-ocean>. Accessed 20.4.2015.
- DeMarban, Alex. 2015. Obama Asks Congress to Designate ANWR Coastal Plain as Wilderness. Alaska Dispatch News, 3 April.

- <http://www.adn.com/article/20150403/obama-asks-congress-designate-anwr-coastal-plain-wilderness>. Accessed 20.4.2015.
- DeMarban, Alex, and Yereth Rosen. 2015. To Drill or not to Drill? ANWR vs. the Arctic Ocean. *Alaska Dispatch News*, 27 January.
<http://www.adn.com/article/20150127/drill-or-not-drill-anwr-vs-arctic-ocean>. Accessed 20.4.2015.
- Finstad, Greg, Harry R. Bader, and Alexander K. Prichard. 2002. Conflicts Between Reindeer Herding and an Expanding Caribou Herd in Alaska. In: *Rangifer* 22 (4): 33-37.
- Finstad, Greg, Knut Kielland, and William Schneider. 2006. Reindeer Herding in Transition: Historical and Modern Day Challenges for Alaskan Reindeer Herders. In: *Nomadic Peoples* 10 (2): 31-49.
- Forgey, Pat. 2015. House Democrat Tries to Turn Routine ANWR Drilling Resolution into Oil Tax "Gotcha". *Alaska Dispatch News*, 4 February.
<http://www.adn.com/article/20150204/house-democrat-tries-turn-routine-anwr-drilling-resolution-oil-tax-gotcha>. Accessed 20.4.2015.
- Gilbert, Trimble. 2015. ANWR Wilderness is Vital to Caribou, Gwich'in People in Alaska. *Alaska Dispatch News*, 13 March.
<http://www.adn.com/article/20150313/anwr-wilderness-vital-caribou-gwichin-people-alaska>. Accessed 23.5.2017.
- Gwich'in Council International. 2009. The Gwich'in.
<http://www.gwichin.org/gwichin.html>. Accessed 23.5.2017.
- Gwich'in Steering Committee. n.d. Caribou People.
<http://ourarcticrefuge.org/about-the-gwichin/caribou-people/>. Accessed 9.5.2020.
- Hill, Erica. 2018. The Archaeology of Human–Dog Relations in Northwest Alaska. In: Losey, Robert J., Robert P. Wishart, and Jan Peter Laurens Looers (eds.). *Dogs in the North – Stories of Cooperation and Co-Domestication*. Oxon and New York: Routledge, pp. 87-104.
- Hovey, Davis. 2017. At Midnite Sun Ranch, Youth Summit Aims to Revitalize Reindeer Herding with a New Generation. *KNOM*.
<https://www.knom.org/wp/blog/2017/06/23/at-midnite-sun-ranch-yout...ummit-aims-to-revitalize-reindeer-herding-with-a-new-generation/>. Accessed 9.5.2020.
- ICC (Inuit Circumpolar Council). 2009. Inuit Arctic Policy.
https://iccalaska.org/wp-icc/wp-content/uploads/2016/01/Inuit-Arctic-Policy-June02_FINAL.pdf. Accessed 21.10.2020.
- Johnson, Princess Daazhrai. 2015. A Birthing Ground Like ANWR is no Battlefield. *Alaska Dispatch News*, 31 January.
<http://www.adn.com/article/20150131/birthing-ground-anwr-no-battlefield>. Accessed 23.5.2017.
- Kawerak. n.d. Who We Are.
<https://kawerak.org/about-us/who-we-are/>. Accessed 9.5.2020.
- Kazmierski, Katie. 2019. Nome-Area Ranch Works to Get Youth into Reindeer Herding. *KNOM*.
<https://www.alaskapublic.org/2019/07/31/nome-area-ranch-works-to-get-youth-into-reindeer-herding/>. Accessed 9.5.2020.

- Klein, David. 1980. Conflicts Between Domestic Reindeer and their Wild Counterparts: A Review of Eurasian and North American Experience. In: *Arctic* 33 (4): 739-756.
- KTVA 11 News. 2016. North Slope Borough Mayor Voted out in Recall Election. 6 April. <http://www.ktva.com/north-slope-borough-mayor-voted-out-in-recall-election-738/>. Accessed 23.5.2017.
- Langdon, Steve. 2014. *The Native People of Alaska – Traditional Living in a Northern Land*. Anchorage: Greatland Graphics.
- Lantis, Margaret. 1950. The Reindeer Industry in Alaska. In: *Arctic* 3 (1): 27-44.
- Mager, Karen H. 2012. “I’d Be Foolish to Tell You They Were Caribou”: Local Knowledge of Historical Interactions between Reindeer and Caribou in Barrow, Alaska. In: *Arctic Anthropology* 49 (2): 162-181.
- Mohatt, Gerald, Michelle Rasmus, Lisa Thomas, James Allen, Kelly Hazel and Chase Hensel. 2004. “Tied Together Like a Woven Hat”: Protective Pathways to Alaska Native Sobriety. In: *Harm Reduction Journal* 1 (10).
- Nome Eskimo Community. n.d. Welcome to Nome Eskimo Community (NEC). <https://www.necalaska.org/index.html>. Accessed 9.5.2020.
- O’Malley, Julia. 2015. Listen to the Gwich’in. *Al Jazeera America*, 18 February. <http://projects.aljazeera.com/2015/03/arctic-village/>. Accessed 14.4.2019.
- Pálsson, Gísli. 1996. Human-Environmental Relations. In: Descola, Philippe and Gísli Pálsson (eds.). *Nature and Society: Anthropological Perspectives*. London: Routledge, pp. 63-81.
- Pasquale, Kristofer. 2002. ANWR: The Legislative Quagmire Surrounding Stakeholder Control and Protection, and the Practical Consequences of Allowing Exploration. In: *Buffalo Environmental Law Journal* 9 (245): 245-292.
- Plattet, Patrick. 2004. Le double jeu de la chance. Imitation et substitution dans les rituels chamaniques contemporains de deux populations rurales du Nord-Kamtchatka: les chasseurs maritimes de Levaia et les éleveurs de rennes d’Atchaïvaian. In: *École pratique des hautes études, Section des sciences religieuses* 117 (113): 459-466.
- Plattet, Patrick. 2006. Les voies du corral. Aspects de l’orientation dans les pratiques pastorales et les performances rituelles contemporaines des éleveurs de rennes du Nord-Kamtchatka. In: *Études mongoles et sibériennes, centrasiatiques et tibétaines* 36-37: 21-60.
- Rattenbury, Kumi, Knut Kielland, Greg Finstad, and William Schneider. 2009. A Reindeer Herder's Perspective on Caribou, Weather and Socio-Economic Change on the Seward Peninsula, Alaska. In: *Polar Research* 28 (1): 71-88.
- Remy-Sawyer, Therese. 2009. *Living in Two Worlds*. Victoria, Canada: Trafford Publishing.
- Sarkadi, Laurie. 2007. Caribou in Decline – What’s Causing the Rapid Collapse of Caribou Herds – Humans, Climate Change or Natural Cycles? In: *Canadian Geographic* Nov/Dec: 56-63.
- Simon, James and Johnson Koffroth. 1998. *Twentieth Century Inupiaq Eskimo Reindeer Herding on Northern Seward Peninsula, Alaska*. Ph.D. dissertation. Fairbanks: University of Alaska Fairbanks.

- Slobodin, Richard. 1981. Kutchin. In: Helm, June (ed.). *Handbook of North American Indians*, vol. 6, Subarctic. Washington, DC: Smithsonian Institution Press, pp. 514-532.
- Sonnenfeld, Joseph. 1959. An Arctic Reindeer Industry: Growth and Decline. In: *Geographical Review* 49 (1): 76-94.
- State of Alaska Department of Health & Social Services. 2018. *Cultural Resources for Alaska Families – Traditional Health & Wellness Guide*.
<http://dhss.alaska.gov/ocs/Documents/Publications/pdf/CulturalResourcesGuide.pdf>. Accessed 25.4.2021.
- Thompson, Robert. 2015. ANWR: Hunting in Wilderness, not an Oil Field. *Alaska Dispatch News*, 18 February.
<http://www.adn.com/article/20150218/anwr-hunting-wilderness-not-oil-field>. Accessed 23.5.2017.
- Thornton, Thomas F. 2001. Subsistence in Northern Communities: Lessons from Alaska. In: *The Northern Review* 23: 82-102.
- UAF Institute of Agriculture, Natural Resources & Extension. 2019. The farm.
https://reindeer.salrm.uaf.edu/afes_farm/index.php. Accessed 12 October 2020.
- UAF School of Natural Resources and Extension. n.d. Reindeer History in Alaska.
http://reindeer.salrm.uaf.edu/about_reindeer/history.php. Accessed 14.4.2019.
- U.S. Census Bureau. Population and Housing Unit Estimates Tables.
<https://www.census.gov/programs-surveys/popest/data/tables.2018.html>. Accessed 20.6.2019.
- USFWS (U.S. Fish and Wildlife Service). 2012a. Caribou Fences: People of the Caribou.
<http://www.fws.gov/refuge/arctic/cariboufences.html>. Accessed 14.4.2019.
- USFWS (U.S. Fish and Wildlife Service). 2012b. Refuge Features.
http://www.fws.gov/refuge/arctic/refuge_features.html. Accessed 14.4.2019.
- VanStone, James W. 2000. Reindeer as Draft Animals in Alaska. In: *Études/Inuit/Studies* 24 (2): 115-138.
- Vitebsky, Piers. 2005. *The Reindeer People: Living with Animals and Spirits in Siberia*. Boston and New York: Houghton Mifflin Harcourt.
- Willerslev, Rane. 2007. *Soul Hunters: Hunting, Animism, and Personhood among the Siberian Yukaghirs*. Berkeley: University of California Press.
- Willerslev, Rane. 2012. *On the Run in Siberia*. Minneapolis: University of Minnesota Press.
- Willis, Roxanne. 2006. A New Game in the North: Alaska Native Reindeer Herding, 1890-1940. In: *Western Historical Quarterly* 37 (3): 277-301.
- Wohlforth, Charles. 2005. *The Whale and the Supercomputer: On the Northern Front of Climate Change*. New York: North Point Press.
- World Population Review. 2020. Nome, Alaska Population 2020.
<https://worldpopulationreview.com/us-cities/nome-ak-population/>. Accessed 10.5.2020.
- Wray, Kristine and Brenda Parlee. 2013. Ways We Respect Caribou: Teetl'it Gwich'in Rules. In: *Arctic* 66 (1): 68-78.

Fieldnotes and Interviews

Fieldnotes 15.–30.05.2015.

Interview 1: Employee at city administration. 2015. Taped interview, 27 May, Nome, Alaska, United States. Doris Friedrich, interviewer. Tape and transcript in possession of author.

Interview 2: Reindeer biologist. 2015. Taped interview, 19 May, Fairbanks, Alaska, United States. Doris Friedrich, interviewer. Tape and transcript in possession of author.

Interview 3: Employee at a Native organization. 2015. Taped interview, 27 May, Nome, Alaska, United States. Doris Friedrich, interviewer. Tape and transcript in possession of author.

Interview 4: Ecologist. 2015. Taped interview, 19 May, Fairbanks, Alaska, United States. Doris Friedrich, interviewer. Tape and transcript in possession of author.

Interview 5: Cultural anthropologist. 2015. Taped interview, 22 May, Fairbanks, Alaska, United States. Doris Friedrich, interviewer. Tape and transcript in possession of author.

Interview 6: Expert on natural resource management. 2015. Taped interview, 21 May, Fairbanks, Alaska, United States. Doris Friedrich, interviewer. Tape and transcript in possession of author.