

# *Strong community support for illegal killing challenges wolf management*

**Mari Pohja-Mykrä & Sami Kurki**

**European Journal of Wildlife  
Research**

ISSN 1612-4642

Eur J Wildl Res

DOI 10.1007/s10344-014-0845-9



**Your article is protected by copyright and all rights are held exclusively by Springer-Verlag Berlin Heidelberg. This e-offprint is for personal use only and shall not be self-archived in electronic repositories. If you wish to self-archive your article, please use the accepted manuscript version for posting on your own website. You may further deposit the accepted manuscript version in any repository, provided it is only made publicly available 12 months after official publication or later and provided acknowledgement is given to the original source of publication and a link is inserted to the published article on Springer's website. The link must be accompanied by the following text: "The final publication is available at [link.springer.com](http://link.springer.com)".**

# Strong community support for illegal killing challenges wolf management

Mari Pohja-Mykrä · Sami Kurki

Received: 7 October 2013 / Revised: 9 April 2014 / Accepted: 3 July 2014  
© Springer-Verlag Berlin Heidelberg 2014

**Abstract** In Finland, the conservation of large mammalian carnivores—brown bear, lynx, wolf and wolverine—is undermined by illegal killings that have commonly taken place after the implementation of national carnivore management plans. This hidden form of criminality cannot occur to such an extent without strong support from the local community. We examined the support of proximate groups by collecting data from hunters and women. In collecting data, we used non-active role playing with empathy-based fictitious stories. We used argumentation analysis to reveal the assumed species, the background of the illegal killing and especially the justifications and importance of community support for illegal killing. The results show that we have a conflict with strong basic emotions in hand as both illegal killing and support for illegal killing and hunting violators are based on anger and fear for children and domestic animals as well as frustration toward the authorities and the lack of proper management actions. The wolf is at the centre of the conflict due to the specific character of the species. Current policies have inevitably been lacking in terms of place-based policy, and that has led to conflicts between game management authorities/researchers and ordinary citizens. To facilitate a change in attitudes, we suggest focusing on affective factors via confidence-building measures.

**Keywords** Large carnivore management · Illegal killing · Societal sustainability · Wolf management

---

Communicated by R. White

---

M. Pohja-Mykrä (✉) · S. Kurki  
Ruralia Institute, University of Helsinki, Kampusranta 9,  
60320 Seinäjoki, Finland  
e-mail: mari.pohja-mykra@helsinki.fi

S. Kurki  
e-mail: sami.p.kurki@helsinki.fi

## Introduction

The recovery of large carnivores in the 1980s in Finland has led to a growing political concern about large carnivore management. National management plans for the grey wolf (implemented in 2006), brown bear (2007), lynx (2007) and wolverine (under construction) were drafted under the regulative steering of EU policies (92/43/ETY). It is widely agreed that the management of large predators requires decision-making that takes social, economic and political aspects into consideration, but in light of recent research, it seems that there has been a failure to include local people's needs in the management of large carnivores, and socio-cultural legitimacy and place-based policy is lacking (Borgström 2011; Ratamäki 2008; Pohja-Mykrä and Kurki 2014).

The preparation of the wolf management plan took place in 2004/2005, and the plan was implemented in 2006 (MAF 2005). There has been polarized and hostile debate in Finnish society concerning the occurrence and number of wolves in the country for many decades (Bisi et al. 2007), and therefore an extensive hearing procedure took place during the preparation phase (Bisi and Kurki 2008). Between 1998 and 2006, the wolf population grew by 12 % per year, followed by a decrease of 15 % per year between 2006 and 2010 (Kojola et al. 2011). The population decrease from about 250 wolves in 2006 to today's 140 (year 2014) wolves can be considered significant. The outcome of new wolf policies is that there is a significant loss of wolves, which refers to illegal killing. It seems that the hearing procedures were not a sufficient tool for integrating local peoples' needs and expectations in the management plans (Pohja-Mykrä and Kurki 2014). In fact, opportunities for the local inhabitants to influence management policy are more or less non-existent (Ratamäki 2008). Problems come to a head in areas where the majority of the damage by large carnivores is experienced and also where these predators have entered after a long absence (Bisi

and Kurki 2008; Liukkonen et al. 2006; Mykrä et al. 2006; Pohja-Mykrä and Kurki 2008). Large carnivore conflicts emerge between stakeholders and also between residents of urban and rural areas, ordinary citizens and game management authorities as well as ordinary citizens and game researchers (Pohja-Mykrä and Kurki 2014). Thus, conflicts emerge in a multidimensional as well as a hierarchical manner.

According to estimates based on population parameters, as much as 25–30 % of the total wolf population in Finland is missing for unknown reasons (Kojola et al. 2011). By comparison, in Sweden, illegal killing accounted for approximately half of the total mortality of wolves, and more than two thirds of total illegal killing remained undetected by conventional methods (Liberg et al. 2012). In the northern rocky mountains, at least 24 % of dead wolves are killed illegally (Smith et al. 2010). Based on police records, only 8.5 % of the loss of the wolf population in Finland can be explained by revealed illegal killing (Pohja-Mykrä and Kurki 2013). It seems that this widely spread hidden criminality undermines conservation efforts directed at wolves. But could illegal killing occur to such an extent without strong support from the local community?

The illegal killing of large carnivores in Finland is mainly motivated by disputes over national objectives and management measures (Pohja-Mykrä and Kurki 2013) and cannot be seen as illegal resource use per se, but the study methods of illegal resource use are also feasible in this case. According to Gavin et al. (2010), the main research methods include searching law enforcement records, indirect observations of resource use, self-reporting such as diaries or records, direct observations, direct questioning, forensics, modelling or randomized response techniques. Studying illegal resource use is challenging due to invalid or incomplete data caused by sensitive issues (Gavin et al. 2010), and new approaches are needed starting with how the data are collected.

We used qualitative attitude analysis to examine illegal killing and the reasons behind it, and local community support for hunting violators and illegal killing based on data collected using non-active role playing with empathy-based fictitious stories. Why does illegal killing occur? Do local communities support illegal killing, and under what conditions is this support given? Is this community support something we have to be concerned about or something we have to take into account in the management of large carnivores? Finally, we draw conclusions on how the management of large carnivores should evolve in order to achieve better results and success in large carnivore conservation.

## Theoretical framework

The theoretical framework in this study is based on Billig's (1996) rhetorical attitude theory, according to which attitudes

are the evaluations and positions of individuals in public and contentious situations. Individuals are set up in a relationship between the social sphere and their personal life world, and argumentation takes place within these relationships (Billig 1996). Argumentation, therefore, is a kind of a stand taken by a person in a conflict situation (Rantanen and Vesala 1999). From a rhetorical point of view, everyone has an ability to diversify their verbal expressions, and the perceived audience affects the way in which attitudes are expressed as well as how people want things to be done (Billig 1996). This is where the rhetorical aspects adhere to social aspects and especially to aspects of relational social psychology. The link then accentuates the expressive role of attitudes in social interactions (Vesala and Rantanen 2007).

Rhetorical attitudes can be examined using a qualitative attitude analysis method called argumentation analysis (Vesala and Rantanen 2007). This can be seen as a methodical continuation to Billig's (1996) rhetorical attitude theory. The essential methodological basis of argumentation analysis is twofold. Firstly, the structured data can be interpreted as argumentation, that is, a sample of controversial claims about social reality. Secondly, the formation and expression of attitudes can be studied as social phenomena (Vesala and Rantanen 2007). Attitudes are conceptualized for empirical research using Rosenberg's (1960) attitude partition, which is in common use in social psychology. This structure of attitudes includes three components—*affective, cognitive and behavioural factors* (see Erwin 2001).

Emotions reveal relevant incidents for the individual as they occur as responses to stimuli (Erwin 2001). Emotions have an evaluative nature and influence the formation of attitudes (Ajzen and Fishbein 2000; Erwin 2001). Beliefs, knowledge structures, perceptual responses and thoughts constitute the cognitive component (Breckler 1984). Via attitudes people value objects, happenings, etc. (Billig 1996). Therefore, attitudes also value the object, and in its simplicity this is revealed not only through positive and negative stances but also through valuing acceptability or agreeableness (Eagly and Chaiken 1993). Cognitions such as thoughts may vary from favourable to unfavourable such as supporting versus derogating arguments (Breckler 1984). While cognitions may be hidden and emotions are responses to stimuli, the behavioural factors, actions parallel with attitudes, are goal-oriented activities that are guided by motives (Erwin 2001).

In the context of our study, it is not only individual's attitudes but also group attitudes that are important. According to Lambert and Lambert (1971), a group of people aspires to act consistently to strengthen the group's cohesiveness. The formation of attitudes tends to be an average opinion of all group members, and they all stand for it. It is essential for an individual to stick to group standards as deviation may pose a threat to their position in the group. Normative deviation may lead to punishments such as jeering, threatening or ostracism. Thus, the

social environment is essential in the formation of attitudes, and in groups with active contact with each other, there are also commonly approved attitudes (Lambert and Lambert 1971).

## Materials and methods

Research on attitudes toward wildlife is widely considered necessary as a means to understand the nature of conflicts between humans and wildlife and to develop sustainable wildlife management. Modern research consists of a broad approach to attitudes and their formation (e.g. Bjerke and Kaltenborn 1999; Teel and Manfredi 2010; Jacobs et al. 2012). In particular, quantitative attitude surveys exist in large numbers but empirical research into emotions about wildlife have also been conducted, that is, the relationship between emotions about wildlife and specific cognitions that are relevant to wildlife management (Johansson et al. 2012b; Vaske et al. 2013).

In studying attitudes to wildlife, we chose a novel approach both to collecting the data and when analysing it. We use qualitative argumentation analysis to reveal the attitudes of hunters and women toward the illegal killing of large carnivores and hunting violators. With a variety of arguments, we are able to provide an understanding of the justifications for illegal killing and the community support for hunting violators and illegal killing. Due to the relatively high volume of data (narratives) collected, we also found quantitative parameters such as frequencies of attitudes and the chi-square test between respondent age or place of residence and attitudes relevant to the study. The quantitative methods make it possible to define the extent of community support for illegal killing and make assumptions about whether this support is significant enough to be taken into account in the management of large predators.

When examining the support given to hunting violators and illegal killing, it is essential to define the core group of hunting violators, that is, the people who might have an effect on whether a hunting violator decides to engage in illegal killing or not. To reveal and examine the community support, we sampled the data from two distinct groups of people—hunters and women.

We chose to collect data from hunters due to their close connection to actual illegal killings. According to the sentences for illegal killing delivered by district courts in Finland for 2005–2010, the prosecutor claimed that hunting licenses were withdrawn in 83 % of cases (Pohja-Mykrä and Kurki 2013). The proportion of hunters in hunting violators may be even higher as these statistics depend on whether the prosecutor claimed the withdrawal of a hunting license or not in cases when a hunting violator was also a hunter. Finnish hunting culture is based on strong communality. The majority of the hunters in Finland are members of hunting clubs

(Pellikka et al. 2007), and all hunters are members of the Finnish Wildlife Agency, which has a legal and regulatory role in game and hunting management. There are altogether 311,000 hunters (approx. 5 % of the Finnish population). Hunters and hunting clubs play an important role not only in game management but also by performing a significant social role in rural communities (Pellikka et al. 2007).

We chose to collect data from women as we were interested in the support given within families based on hetero-normative perceptions. According to the formation of group attitudes, it may be interpreted that the cohesiveness of a family is built upon shared attitudes. However, it is known that women differ from men when considering risk assessment or attitudes towards authorities (Verchick 2004; Gore and Kahler 2012). In addition, attitudes towards the environment vary between the sexes (Gore and Kahler 2012). To collect the data, we chose women who are members of the Rural Women's Advisory Organization (RWAO), which is a nationwide organization for advice directed at households and customers, the promotion of landscape management and small enterprises in rural areas. With more than 60,000 members, it is one of the largest women's organizations in Finland, and therefore, a powerful development agent as well as a notable women's network in rural areas.

We collected data from respondents in the RWAO in Kainuu in eastern Finland, Satakunta, south-west Finland and western Finland. We collected data from respondents of the Finnish Wildlife Agency in northern Savo, in eastern Finland and in Satakunta in western Finland. These counties are situated outside the reindeer herding area and are known for the existence of a long-lasting conflict between game management authorities and local hunters and/or inhabitants. All respondents were met personally before or after their own gatherings. Hunters gathered at three meetings for shooting test training courses, and these were organized by the local agencies of Finnish Wildlife Agency. The women of the RWAO gathered at annual meetings (two times) and courses in how to make rye bread (two times).

In collecting data, we used non-active role playing with empathy-based fictitious stories. Thus, after a short introduction about the research project and its methods, the respondents were given a brief written story face to face, which they were asked to respond to with a written imagined continuation. With non-active role playing, it is possible to produce statements that take into account both the rhetorical and social nature of argumentation (Vesala and Rantanen 2007). These kinds of projective techniques in data collecting have been found to be excellent methods in social psychology when considering sensitive matters (e.g. Grönfors 1999; Livneh and Antonak 1994; Eskola 1988; Simpura et al. 1990). The method is also regarded as a preferred method when dealing with ethical problems (Eskola 1988; Eskola and Suoranta 1998).

The story given to the respondents tells of a person meeting an old acquaintance in the possession of an illegally killed large carnivore. It is notable that the story does not give any information on the species in question, the hunting violator's sex, the milieu at the scene, the killing method or what had led to the situation. The use of the third person makes it easier for the respondents to write about sensitive issues (Eskola and Suoranta 1998). The story was made as short and as general as possible not to restrict the respondents' narratives. There were two versions of the story. In one of them the person, hereafter the *acquaintance*, witnesses the dead animal and reports the alleged illegal killing to the authorities, and in the other version this acquaintance does not turn the hunting violator in (see italicized text in the narrative below). The respondents received one of the versions of the story randomly, and then in complete anonymity, they wrote narratives to answer the two questions. The respondents were also asked to indicate their age group (–29, 30–39, 40–49, 50–59, 60–69, 70–) and place of residence (town, suburban or countryside). The story was as follows:

“A car came into a yard. An old acquaintance stepped up, showed a large dead carnivore in the trunk of the car, and said that it was illegally killed. The person, who was informed, *told/did not tell* about the illegal action to the authorities. Imagine the situation.

Describe

- what had led to the situation, and
- why did the informed person *tell/not tell* about the illegal action to the authorities?”

Among gatherings of hunters, there was a total of 220 hunters from which 173 chose to participate in role playing (response rate=79 %). Among 72 women in the RWAO's gatherings, altogether 63 chose to participate (response rate=88 %). The response rate was very good considering the sensitive topic at hand. We obtained altogether 236 narratives, of which more than one third (37 %) had to be dismissed. The main reason for this high percentage was that both women and hunters rejected the given story and wrote about their own threats and experiences of large carnivores. They also strongly stated what the authorities should do in the prevailing situation. In the end, we accepted altogether 73 “did tell” and 75 “did not tell” narratives (Tables 1 and 2).

When interpreting the emotions of the narratives, we looked behind the positive and negative emotions and classified various types of emotions using the tree-structured list of emotions described by Parrott (2001). According to this social psychological view, emotions ensue from real, imaginary or foreseeable social relations, and emotions always have an object (Oatley and Jenkins 1996; Parrott 2001). We defined emotions from the narratives to reveal how the illegal killing

**Table 1** Accepted narratives in two versions of the given background story ( $n=148$ ). Hunters were mainly men. However, there were altogether three women present at the hunters' gatherings and their answers might be included in the category of hunters' argumentation

	$n$ , “did tell”	$n$ , “did not tell”	$n$ , total
Hunters	45	55	100
Women	28	20	48
Total	73	75	148

was argued and also what an acquaintance who witnessed illegal killing felt at the time and why. We show in what conditions community members gave their support for illegal killing. We also describe the variety of emotions towards illegal killing and hunting violators, as both object and subject do matter. It is notable that the frequency of each emotion (see Table 3) in the narratives is not interpretable per se as emotions must be interpreted in the right context. In most narratives, there were more than one identifiable emotion, and we classified them all to show the variety of emotions. The emotions were independently classified by both authors to avoid any bias in interpretation. Any conflicts regarding the interpretations were further discussed among the authors and classified and agreed upon.

Cognitions can be revealed by the values that are interpreted from the written narratives. We chose to examine whether women and hunters share the same values as the hunting violator; in other words, were they keen to report the illegal killing to the authorities or not. The respondents could not choose by themselves which one of the two versions they should build their narrative upon. We classified the narratives according to whether the illegal killing was described as

**Table 2** Distribution of women and hunters by age and place of residence. Mean age of hunters is 49.4 years and that of women 48.5 years

	$n$ , hunters	$n$ , women	$n$ , % hunters	$n$ , % women
Age group				
20–29	5	2	5.1	4.2
30–39	15	14	15.2	29.2
40–49	33	10	33.3	20.8
50–59	26	11	26.3	22.9
60–69	17	9	17.2	18.8
70–79	3	2	3.0	4.2
Total	99	48	100	100
Residence				
Countryside	64	38	66.7	79.2
Suburban	19	7	19.8	14.6
Urban	13	3	13.5	6.3
Total	96	48	100	100

**Table 3** Emotions found from narratives categorized using Parrott's (2001) tree-structured emotions—the emotions behind illegal killing and emotions of 'an acquaintance' towards a hunting violator and illegal killing

Emotions in narratives		Emotions behind illegal killing (n, %)		Emotions of an acquaintance in "did tell" stories (n, %)		Emotions of an acquaintance in "did not tell" stories (n, %)	
Primary emotions	Secondary and tertiary emotions	Hunters (n=100)	Women (n=48)	Hunters (n=45)	Women (n=28)	Hunters (n=55)	Women (n=20)
Anger	Annoyance	0	0	33	46	7	0
	Contempt	0	0	40	36	0	0
	Envy	0	0	18	11	0	0
	Frustration	42	50	0	7	33	40
		85	94	0	0	0	0
Fear		28	67	27	14	24	20
Joy	Satisfaction	0	0	2	0	11	40
Sadness	Sympathy	0	0	16	18	78	90
Surprise		8	2	0	0	0	0

intentional or unintentional as the women and hunters dealt with conflicting attitudes using the narratives. We also examined the narratives to find out whether the core group accepts the hunting violators and illegal killing or not. We classified all narratives by their position on being either for or against illegal killing and then according to age and place of residence of the respondent. We chose two age groups according to the legislative reforms concerning hunting of large carnivores. Since 1976, it has been prohibited to kill wolves, lynxes or wolverines without hunting permits. Before that year, the hunting of large carnivores was supported by hunting bounties, and wolf hunting was especially considered an act of bravery (Pohja-Mykrä et al. 2005). Consequently, there were two age groups: those under 40 and those over 40 years. Respondents were grouped according to place of residence in terms of whether they live in the country or in a suburban/urban area.

Behavioural factors were also examined. Behaviour includes overt actions, behavioural intentions and verbal statements regarding behaviour (Breckler 1984). In our study, we were interested in examining what kinds of situations and for what reason people brought up the object and subject in their narratives, what was the carnivore species in question and who was the actor in their story.

## Results

### Emotions behind illegal killing

Four emotions were altogether classified (Table 3) in the narratives when we examined the emotions felt by hunting violators. Primary emotions that appear as reactions to stimuli (Oatley and Jenkins 1996) appeared strongly from the narratives. These

emotions were anger, fear and surprise. Especially, fear together with anger and its tertiary emotion frustration often appeared together in the narratives.

"The wolf was attacking the hunting dog and wolf had to be killed. Also the hunter was in danger." woman<sub>1/20</sub> 'did not tell'

"The wolf pack in the vicinity had come too close to the dwellings and harassed children and domestic animals. The wolf pack was dispersed by killing of the alpha-male." hunter<sub>16/55</sub> 'did not tell'

The preceding narratives show the narrow distinction between fear and anger. We concluded that if the narrative showed that a hunting violator had means with him to kill the carnivore, such as a gun, he was already prepared for the situation and had pondered over the solution in his mind, and then both fear and anger were classified from the narratives. In the latter narrative, frustration is also classified. In the following narratives, anger, frustration and fear are easier to interpret.

"My mate was just fed up because people are short of killing licenses. Just had to take the law in his own hands." hunter<sub>23/55</sub> 'did not tell'

"Fear caused the illegal killing. Felt threatened." woman<sub>3/28</sub> 'did tell'

Both hunters and women described anger as the force that drives a hunting violator to do the illegal killing (Table 3). Anger was expressed in both straightforward written statements as well as longer narratives.

"A large carnivore came too close to a person. *Full stop.*" woman<sub>27/28</sub> 'did tell'

"Most probably a successful shot!" hunter<sub>24/45</sub> 'did tell'

““Veikko” was just returning from the deer hunt (high-seat) and “accidentally” shot a wolf. In the same autumn, the wolf pack had killed ten sheep and mauled 15 sheep in the neighbour’s pasture so that they had to put them down. “Veikko” is also dedicated to keeping game and feeds game daily. During this autumn, he had already found five deer mauled by wolves.” hunter<sub>1/55</sub> ‘did not tell’

In the narratives, there was also a deep-seated frustration because of the authorities and their lack of action when considering the removal or killing of large carnivores. Half of the women and almost half of the hunters justified the actions of the hunting violator with a common frustration towards the authorities and their lack of action in stories where an acquaintance decided not to report the illegal killing to the authorities (Table 3).

“A large carnivore had caused damage to the hunting violator’s domestic animals or property or had come so close to the settlements that he was afraid for his children’s safety. He claimed he had a killing license but didn’t get it or the wheels of bureaucracy were so slow and now he faced a truly risky situation where he had to save his own life and that of his child, pets and domestic animals.” woman<sub>2/20</sub> ‘did not tell’  
 “If people have to live in this kind of fear, it brings some relief when someone is doing something for the good. The authorities won’t help!” woman<sub>12/20</sub> ‘did not tell’  
 “The person who did the mentioned act had lost a good dog to predators and also 2 years earlier another dog had the same fate. No compensation was received for either one.” hunter<sub>44/45</sub> ‘did tell’

#### Emotions towards hunting violators and illegal killing in “did tell” narratives

We classified seven emotions from the narratives where an acquaintance did tell the authorities about an illegal killing; the emotions were annoyance, contempt, envy, fear, frustration, satisfaction and sympathy (Table 3). In “did tell” narratives, an acquaintance felt annoyance towards illegal killing when he was, for example, in the position by ex officio and had to report the illegal killing forward. This also applied in the cases when an acquaintance understood the illegal killing itself but was annoyed by the conflict situation at hand.

“He was the head of the moose hunting group and in this position he had to report.” hunter<sub>44/45</sub> ‘did tell’

Contempt appeared in hunters’ narratives, considered as the most common emotion in an acquaintance who witnessed an illegal killing and informed the authorities about it. In the

narratives of women and hunters, there were two different meanings. On the one hand, an acquaintance who reported the illegal killing was described as a watermelon, a person whose view of life differs from local people. It was likely that those people felt contempt for illegal killing as they did not approve of the illegal act because of its nature. These kinds of differences in thinking were implied indirectly as in the following narratives.

“A person who reported the happening made a mistake according to the common sense of justice” hunter<sub>26/45</sub> ‘did tell’

“He was caught in a large bank robbery and promised to snitch the other criminals to the police to decrease his own sentence. Or, he could be a watermelon who’s involved in animal rights movements.” hunter<sub>23/45</sub> ‘did tell’

On the other hand, the acquaintance’s views were in conflict with the hunting violator’s views as illegal killing was considered the wrong way to handle large carnivores.

“Because you can’t act like this. And he wanted justice to be done and the law breaker to get his penalty.” woman<sub>2/28</sub> ‘did tell’

“One has to give a chance for the existence also of animals.” woman<sub>16/28</sub> ‘did tell’

Envy emerged in narratives where an acquaintance reported an event to the authorities due to the fact that s/he bore malice over old incidents. Envy provides a reason to turn the hunting violator in.

“He bore malice and got his revenge.” hunter<sub>10/45</sub> ‘did tell’

On the other hand, envy emerged in narratives in cases where an acquaintance was after questionable fame and glory. The narratives showed strong emotions regarding how people feel for a person who tells about illegal killing to outsiders.

“He just sought feathers in his cap by informing the authorities.” hunter<sub>28/45</sub> ‘did tell’

In the case of fear, the argumentation was based on being afraid of the authorities who might find out about the illegal killing and would also implicate an acquaintance in a crime.

“The person who discovered the illegal killing was staggering and thought that he’ll also get caught and go to the law and get in trouble with the authorities.” hunter<sub>13/45</sub> ‘did tell’

In the case of sympathy, an acquaintance also understands the situation of the hunting violator, for example, if he also had experienced some harm due to the existence of predators.



There were also narratives, especially among women, where an acquaintance found the reporting to the authorities as one way to get an intolerable local large carnivore situation noticed by the authorities.

“He wanted the authorities to know that large predators are running around and farmers want to protect their properties.” woman<sub>12/28</sub> ‘did tell’

Emotions towards hunting violators and illegal killing in “did not tell” narratives

We classified five emotions from narratives where an acquaintance did not report an illegal killing to the authorities; the emotions were annoyance, fear, satisfaction, sympathy and frustration (Table 3). It was sympathy that occurred most often in the narratives. An acquaintance may have felt that the illegal killing was not the right thing to do, but it was understandable in the circumstances. On the other hand, an acquaintance felt that the hunting violator had done the right thing and also agreed with the means. An acquaintance might just feel sadness over the conflict situation at hand. In many cases, an acquaintance was also very frustrated about the large carnivore situation.

“If this information would have been put forward the whole life of the community would turn over, not to mention relationships...” hunter<sub>10/55</sub> ‘did not tell’

“Good guy. Predators irritate him too. Who cares about one.” hunter<sub>13/55</sub> ‘did not tell’

“Also another person belonged to the same moose hunting group and recalled the Norwegian moose dog. Now there was just one vermin less and own dog had better chances of surviving the autumn at hand. Large carnivores are better protected than humans! Killing large carnivores is strictly criminalized whilst, for example in France, it is just permitted civil disobedience.” hunter<sub>34/55</sub> ‘did not tell’

Frustration did not emerge only as an excuse for illegal killing but especially also in the argumentation, where an acquaintance did not inform the authorities of the illegal killing. One third of the hunters and 40 % of the women argue that an acquaintance was also frustrated with the situation (Table 3).

“He did a favour for the peace of the community that everyone else was too afraid to do.” woman<sub>8/20</sub> ‘did not tell’

Fear appeared in the narratives of both hunters and women. Fear was interpreted as fear of hunting violators and fear of the opinions of the community members in cases when an

acquaintance’s views conflict with the hunting violator’s views. It may also be interpreted that the community pressure that is on hunters is something women do not experience.

“A person didn’t want to be caught for turning his mates in, because he was afraid that the same might happen to him as had happened to the predator.” hunter<sub>17/55</sub> ‘did not tell’

“He was afraid that he’ll be sentenced too for illegal hunting, he’s a hunter and he’ll get into the clutches of watermelons, not to mention the media.” hunter<sub>5/55</sub> ‘did not tell’

Satisfaction occurred in the narratives when an acquaintance felt satisfaction and even took pleasure in illegal killing and also in a case where the conflict situation was solved in a way that no illegal killing occurred at all.

“Who misses one Big Bad Wolf on the way to school.” hunter<sub>46/55</sub> ‘did not tell’

“Wanted to keep the secret because his friend wanted to keep the lynx’s skin. Minor common civil disobedience and a secret bring excitement in life.” hunter<sub>22/55</sub> ‘did not tell’

“Calm down, I’m involved in the Large Carnivore Rescue team and about a quarter of an hour ago police called and said that an Estonian truck ran over that lynx some time ago, told to take the carcass away, thanks for helping.” hunter<sub>2/55</sub> ‘did not tell’

#### Community support for hunting violators

In many, cases the narratives dealing with an unintentional illegal killing related how a person was hunting with a dog or hound when suddenly a wolf came and attacked the hunting dog or the hunter himself. In a sudden situation like this, the hunter had to act because he had to protect his dog or himself.

“A large predator attacked while he was hunting and he had to shoot it in self-defence.” hunter<sub>25/4</sub> ‘did tell’

In unintentional acts, there were also comical narratives about the conflict situation that had to be resolved.

““Nieminen, what the xxxx! Why on earth have you got a lynx in the trunk?” “Calm down, don’t shout, neighbours will hear... I’m here for advice, what am I going to do with this. You see, this is how it happened: I was on my way from shooting wildfowl at dusk, took a couple of beers, and was driving home deep in my thoughts. Suddenly, I noticed that there was a lynx standing on the road, I hit the brakes, there was a bump, and I went out to take a look. I took my shotgun just in

case, it moved a bit, I had to shoot it to put it down as its entrails were all over the place. I panicked and didn't know what to do, sanctions are so severe, they take guns and, and, and." hunter<sub>25/20</sub> 'did not tell'

Narratives with an intentional act were mainly long stories about an intolerable situation where, for example, large carnivores are threatening children on their way to school or there had been a number of wolf attacks on sheep just recently.

"In the area where the hunting violator is living, there has been lots of trouble with wolves. Wolves mauled hunting dogs, cats have been eaten by wolves, deer carcasses are everywhere. There is the fear that a wolf will do harm, to small children, you don't dare to lull babies in prams on the veranda and in the garden like you used to do in the old days." woman<sub>13/20</sub> 'did not tell'

The relative proportion of intentional and unintentional acts (Table 4) in the narratives show that more than half of the hunters were keen to argue that the illegal killing was a kind of mishap and they had to take that position because an acquaintance had told the authorities what had happened. In these cases, they took the side of the hunting violators. They justified telling the authorities by arguing that the hunting violator would not be sentenced anyway because of the nature of the act or anyone would do the same if they have to defend their lives or that of their dogs.

"A friend who got information thought that killing large carnivores should be told to the authorities as it was after a hunting dog." woman<sub>20/20</sub> 'did not tell'

Women's narratives were mainly stories of intentional acts. It is noteworthy that in spite of the nature of the illegal killing in their narratives, women in many cases brought up an aspect that rural people were concerned about the current large carnivore situation. They hoped that the authorities would notice that, for example, wolf extermination must be handled by the authorities, not by hunting violators.

"The person who found out about the illegal killing let the authorities know because all this knowledge should be shared in order to enable the legal killing of predators." woman<sub>19/28</sub> 'did tell'

**Table 4** Frequency (%) of unintentional acts in narratives when illegal killing was either reported or not reported to the authorities

Unintentional act	f, % hunters	f, % women
Did tell	53.3	14.3
Did not tell	27.8	15.0

The respondents could not choose by themselves which one of the two versions they had to build their narrative on as they randomly got one of the versions. This means that we had to interpret the respondents' attitudes from their argumentation. By comparing both narratives (A and B) to the given fictitious story, we interpreted and classified all narratives in terms of their position of being either for or against illegal killing. Here is an example of a narrative from a woman who was in favour of illegal killing (1) and a hunter who was against illegal killing (2). In both cases, the respondents were given a "did tell" version of the background story.

(1) A: "The large carnivore was a threat, most probably to the safety of our own child. There was fear for domestic animals and pets. Fear that the predator population will grow."

B: "Just jealous, that someone else got to kill the beast." woman<sub>18/28</sub> 'did tell'

(2) A: "The killer hated large carnivores very much and assumed that others would approve of his actions."

B: "The person who got the information disagreed with the killer. He reported it to the authorities because he was law-abiding citizen." hunter<sub>12/45</sub> 'did tell'

The results (Table 5) show that two thirds of the hunters were in favour of illegal killing. It is notable that hunters in the under-40 age group hold similar attitudes to the hunters in the over-40 age group. Compared to the hunters, fewer women were in favour of illegal killing. However, in the younger age group, as much as 68.8 % of women were in favour of illegal killing. Hunters living in suburban/urban areas were more in favour of illegal killing (81.3 %) than were hunters living in the countryside (67.2 %). In the women's narratives, this kind of difference is lacking.

We tested the data using chi-square test to reveal possible statistical significances in regard to being for or against illegal killing in the case of actor (hunter or women), age group (<40 or ≥40) and place of residence (town, suburban or countryside). According to the results, there is no connection to attitudes based on actor ( $\chi^2=3.219$ ;  $p=.073$ ), age group ( $\chi^2=.386$ ;  $p=.535$ ) or place of residence ( $\chi^2=2.119$ ;  $p=.347$ ).

#### Target species

In every fourth narrative ( $n=35$ ), people's attitudes had an actual object, a species that was illegally killed (see Table 6). It was mainly a wolf (74.3 %) that was pointed out. Narratives

**Table 5** The relationship between age groups and attitudes, as well as place of residence and attitudes, towards illegal killing in the groups of hunters and women

	Age group	Number, <i>n</i>	For (%)	Against (%)	Residence	Number, <i>n</i>	For (%)	Against %
Hunter	<40	20	75	25	Countryside	64	67.2	32.8
	≥40	80	72.5	27.5	Suburban/urban	32	81.3	18.8
Women	<40	16	68.8	31.3	Countryside	38	57.9	42.1
	≥40	32	53.1	46.9	Suburban/urban	10	60.0	40.0

involving the illegal killing of wolves and bears were also usually stories where the act was intentional.

“The settlement here is quite dense and there are children in every home and they wait for their school rides by the roadside. It must have been a wolf that could cause human deaths...” woman<sub>20/20</sub> ‘did not tell’

“The person had been working in the forest and a bear surprised him during a coffee break. Luckily he had a pistol in the rucksack to go for.” woman<sub>7/20</sub> ‘did not tell’

The last preceding narrative would have been difficult to interpret without the narrative offered in response to question B.

“A bear had been near the settlements, and anyway, there had been lots of bears in the neighbourhood, well, this bear had it coming anyway, now the kids in the village won’t have to be afraid anymore. They just thought to bury it in the woods on the quiet.” woman<sub>7/20</sub> ‘did not tell’

Wolverine and lynx were brought up in the narratives where the action was unintentional and the situation came as a surprise. An animal was, for example, driven over by a car.

“He had been hunting and shot wolverine into the bushes. He made a hasty conclusion and thought, at that time, that he shot a hare. This is why he took the wolverine with him, to cover the incident. He rushed to his mate to tell him about the incident because he knew he’d keep it to himself.” hunter<sub>31/55</sub> ‘did not tell’

It is notable that in the Finnish language there is only one third-personal pronoun for people, and it means both *she* and *he*. So, in Finnish sentences that use the third-personal

pronoun, it is not possible to identify the hunting violator’s sex. Most narratives referred to a “mate”, “friend”, “person” or “hunter”. However, when the person’s sex was mentioned in the narratives, it was always male. It is more likely that ‘hunter’ refers to a man and not to a woman.

### Discussion

Examining the community support for hunting violators and illegal killings required an innovative approach to collecting the data. Using anonymous non-active role playing, it was possible to gather argumentations from the core group of hunting violators. The analysis of the argumentations based on Billig’s rhetorical attitude theory was found to be a feasible method for revealing the respondents’ attitudes to illegal killings as well as the conditions where the community also supported illegal killings. Everyone has verbal or written power, and they use it to take a stand in a conflict situation (Billig 1996). The attitudes reveal the ability and intention to support illegal killing, not carry out the illegal killing personally. Support for illegal killing and for the hunting violators themselves may be seen as verbal spurring, or even encouragement, or silent support and approval of the act.

Based on the attitudes revealed in our data, we claim that attitudes towards large carnivores, and especially toward wolves, are built on strong primary emotions. Fear of large carnivores and anger toward large carnivores are primary emotions that may lead to secondary emotions such as frustration. This is directed toward the game management authorities and researchers who carry out and implement national top-down large carnivore management policies and therefore are in a key position to allow the current numbers of large carnivores. Emotions play a key role in our experiences with wildlife and our responses to wildlife (Jacobs et al. 2012), and our results show that when dealing with large carnivores, emotions do play a crucial role in attitudes.

The results show that hunters living in the suburban/urban areas were more in favour of illegal killing and hunting violators than were hunters living in the countryside. According to Billig (1996), people standing in a conflict situation use their argumentation to take up a position, and attitudes can vary with the context in which they are

**Table 6** Frequency of mentioned species in narratives

Species	<i>f</i>	<i>f</i> , %
Grey wolf ( <i>Canis lupus</i> )	26	74.3
Wolverine ( <i>Gulo gulo</i> )	4	11.4
Brown bear ( <i>Ursus arctos</i> )	3	8.6
Lynx ( <i>Lynx lynx</i> )	2	5.7
Total	35	100

expressed. It may be that in this case suburban/urban hunters wanted to express strong support for the people actually living in the large carnivore areas. It is also possible that the suburban/urban hunters want to separate themselves from their non-hunting fellow (sub)urbanites who, according to the media as well as according to the average hunter's opinion, are apparently strongly against all kinds of carnivore population control. It is also notable that in Finland almost all hunters have a connection to the countryside because they are members of local hunting clubs there.

Among hunters, there is some fear of the opinions of others in the case when an individual's opinions differ from those of others. This shows that for an individual hunter, it is essential to stay stick on group standards as deviation may pose a threat to their position in a group. This group pressure among hunters is something that women are lacking.

Not only did the hunters support illegal killing in the current situation but so did women. Women may have strong attitudes against the existence of large carnivores on the grounds that they find predators to be a threat to their family or to their livelihood. This could also reflect on the evolutionary role of females as the primary caretakers of children who need protection against predators. However, according to our results, women still trust the authorities and their ability to correct the large carnivore policies that do not consider specific local conditions. Women want to bring the intolerable situation of rural people to the authorities' attention hoping that, for example, the extermination of wolves will be handled by the authorities and not by hunting violators.

In the data collection process, we had to dismiss one third of the narratives. The main reason for this high percentage was that both women and hunters rejected the given story and wrote about their own threats and experiences with large carnivores. They also strongly stated what the authorities should do in the current situation. As an example, we cite one woman's narrative where she randomly took a story where an old acquaintance did not report an illegal killing to the authorities:

"In this state we live in, the common opinion of the decision-makers is that large carnivores do not harm anyone. Conservation protection groups seem to think that large carnivores aren't capable of hurting anyone. In eastern Finland, populations of large carnivores are way too large. Domestic animals and children are under threat. No one takes this problem seriously. There are wolf packs that contain more than 20 animals. The population of brown bear is also going to expand too much. Hunting violators have taken the law into their own hands. The common trust in the national large carnivore policies is long gone. The power is now in the hands of the locals. Illegal killings of large carnivores are ok." We found this rejection to be somewhat remarkable and interpreted that these narratives show a deep frustration toward the large carnivore policies.

The success of national carnivore conservation depends on the understanding of the socio-political landscape as much as of the biological landscape (Treves and Karanth 2003; Pohja-Mykrä and Kurki 2014). Our results show that illegal killing gets support that does not depend on age group or place of residence. The results show that the current large carnivore policy has failed to take people's concerns seriously enough. Large carnivore management lacks legitimacy, and this appears both in actual illegal killing and also in hidden passive behaviour such as feigning ignorance when supporting illegal killings. Conflict resolution stems from understanding the roots of the conflict, and when influencing attitudes, one must acknowledge the differences between species.

An examination of the argumentation relating to the long-standing conflict in wolf management in Finland shows that stakeholders refer mainly to the loss of hunting dogs that are attacked and killed by territorial wolves (Bisi et al. 2010). Another important aspect in this sense is the threat that wolves pose to livestock, particularly in sheep farming and reindeer herding, and wolves are also viewed as predators of large wild ungulates, especially moose (*Alces alces*) (Bisi et al. 2010). In spite of all these arguments, attitude formation is strongly driven by the fear of wolves and their species-specific characteristics (Bisi et al. 2010). The fear of wolves seems to be a common phenomenon across the entire wolf dispersal area (e.g. McNaught 1987; Bjerke et al. 2001; Pyka et al. 2007; Majić 2007; Røskaft et al. 2007; Bisi and Kurki 2008; Schanning 2009; Agarwala et al. 2010). In Finland, negative attitudes towards wolves remain strong as the roots are deep and based on a long history of human–wolf interactions (Mykrä and Pohja-Mykrä 2005). Wolves do not only have the ability to hunt and cause staggering losses to livestock, they are also considered to pose an actual threat to hunting dogs and human lives, which is more or less an absent feature with other large predators (Pohja-Mykrä et al. 2005). In Finland, the history of child-eating wolves (Teperi 1977; Pousette 2000; Linnell et al. 2002) is commonly known. In addition, it has to be acknowledged that predatory wolf attacks on humans take place even today (Jhala and Sharma 1997; Kumar 2003; Kruuk 2002; Linnell et al. 2003; McNay 2002; McNay and Mooney 2005).

Attitudes towards wolves have been under examination for years; for example, between 1972 and 2000, a total of 38 quantitative attitude surveys were conducted (Williams et al. 2002), and the need to understand human–wolf relations is continuously critical. Karlsson and Sjöström (2007) stated that favourable attitudes towards wolf conservation were positively associated with distance to the nearest wolf territory. Thus, people living in wolf territories, being a hunter, owning livestock or owning a hunting dog, had a more negative attitude towards the conservation of wolves than other people (Karlsson and Sjöström 2007; see also Bjerke et al. 1998; Williams et al. 2002; Ericsson and Heberlein 2003). In addition

to quantitative attitude surveys, there is a growing need for qualitative surveys that convey information about the attitudes of management-relevant stakeholder groups. As such, our study adds relevant information about the attitudes of relevant groups toward illegal killings and hunting violators in the context of large carnivore management.

### Conclusions and management implications

The illegal killing of large carnivores is driven by attitudes based on strong basic emotions. Anger as well as fear of attacks on children and domestic animals act as a driving force for a hunting violator to carry out the illegal killing. Anger is often associated with deep-seated frustration towards authorities and their lack of action when considering place-based management measures. Emotions such as anger, fear and sadness are symptoms of the legitimacy deficit toward wildlife management as well as the threat to institutional legitimacy. People who hold such strong emotions might be more prone to be radicalized to the degree of sanctioning and even committing crimes.

Interestingly, the same argument is found in the support for illegal killings and hunting violators. The respondents justify illegal hunting with reasonable arguments instead of being outright animal haters or psychopaths promoting crime. These hunting violators are seen as a kind of Robin Hood in the communities, and their acts are considered acts of justice, that is, the local people against the central administration. The fact that the support is contingent on the lack of the necessary actions by the game management authorities does indicate that this lack necessitates taking matters into one's own hands and thereby granting illegal killing a permissible status.

The polarization of attitudes emerges around certain species. Intentional illegal killing is targeted at wolves and brown bears, and the wolf is especially the focus of illegal killing. For the successful conservation of the wolf, there is an urgent need for attitude changes. The options for affecting those attitudes, to change them in a favourable direction, arise from experience and from information and education. In affecting emotion-driven attitudes, the means must meet the emotional level via concrete actions (see also Erwin 2001). Current large carnivore management seems to lack acceptable instruments to adapt to human–wolf coexistence and therefore to assess the societal sustainability of current wolf policies.

The wolf poses a threat to the well-being of people, and therefore its presence brings feelings of insecurity. This insecurity together with the lack of trust in large carnivore policies and management actions has led to disputes over current wolf policies. According to a previous study, efforts to reduce human fear of wolves should focus on building trust between the public and the authorities (Johansson et al. 2012a). It seems also, in light of our study, that these factors go hand

in hand. Building trust between ordinary citizens and game management authorities as well as between ordinary citizens and game researchers must be prioritised in future large carnivore management initiatives.

To conclude, the successful population management of large carnivores is something that must prioritise local socio-cultural needs. This makes sound conflict management possible and builds trust between decision-makers, researchers, managers and local people.

**Acknowledgments** Thanks go to the Rural Women's Advisory Organization in Kainuu, Satakunta, and South-West Finland and the Finnish Wildlife Agency's regional agencies in Satakunta and Northern-Savo. Many thanks to Jukka Bisi, Juha Hiedanpää, Pirjo Ilvesviita, Sakari Mykrä, Janne Pitkänen and Timo Vuorisalo for their contributions to the article. These results are part of a research project *Toward societal sustainability in large carnivore management—background and importance of illegal killing* funded by The Ministry of Agriculture and Forestry of Finland.

### References

- Agarwala M, Kumar S, Treves A, Naughton-Treves L (2010) Paying for wolves in Solapur, India and Wisconsin, USA: comparing compensation rules and practice to understand the goals and politics of wolf conservation. *Biol Conserv* 143:2945–2955
- Ajzen I, Fishbein M (2000) Attitudes and the attitude–behavior relation: reasoned and automatic processes. In: Stroebe W, Hewstone M (Eds), *Eur Rev Soc Psychol*, Vol 11. Wiley, West Sussex
- Billig M (1996) *Arguing and thinking: a rhetorical approach to social psychology*. Cambridge University Press, Cambridge
- Bisi J, Kurki S (2008) Wolf debate in Finland. Expectations and objectives for the management of wolf population in regional and national level. *Publications* 12, University of Helsinki, Ruralia Institute, Seinäjoki
- Bisi J, Liukkonen T, Mykrä S, Pohja-Mykrä M, Kurki S (2010) The good bad wolf—wolf evaluation reveals the roots of the Finnish wolf conflict. *Eur J Wildl Res* 56:771–779
- Bisi J, Kurki S, Svensberg M, Liukkonen T (2007) Human dimensions of wolf (*Canis lupus*) conflicts in Finland. *Eur J Wildlife Res* 53:304–314
- Bjerke T, Kaltenborn BP (1999) The relationship of ecocentric and anthropocentric motives to attitudes toward large carnivores. *J Environ Psych* 19:415–421
- Bjerke T, Kaltenborn BP, Thrane C (2001) Sociodemographic correlates of fear-related attitudes toward the wolf (*Canis lupus lupus*). *Fauna Norvegica* 21:25–33
- Bjerke T, Reitan O, Kellert SR (1998) Attitudes toward wolves in south-eastern Norway. *Soc Nat Resour* 11:169–178
- Borgström S (2011) Legitimacy issues in Finnish Wolf Conservation. *J Environ Law* 1–26
- Breckler SJ (1984) Empirical validation of affect, behavior, and cognition as distinct components of attitude. *J Pers Soc Psychol* 47:1191–1205
- Eagly A, Chaiken S (1993) *The psychology of attitudes*. Harcourt, Brace College, Fort Worth
- Ericsson G, Heberlein TA (2003) Attitudes of hunters, locals, and the general public in Sweden now that the wolves are back. *Biol Conserv* 111:149–159
- Erwin P (2001) *Attitudes and persuasion*. Taylor & Francis
- Eskola A (1988) Non-active role-playing; some experiences. In: Eskola A, Kihlström A, Kivinen D, Weckroth K, Ylijoki OH

- (eds) Blind alleys in social psychology: a search for ways out. Elsevier, Amsterdam
- Eskola J, Suoranta J (1998) Johdatus laadulliseen tutkimukseen. OsuuskuntaVastapaino, Tampere, pp 52–59
- Gavin M, Solomon J, Blank SG (2010) Measuring and monitoring illegal use of natural resources. *Conserv Biol* 24:89–100
- Gore ML, Kahler JS (2012) Gendered risk perceptions associated with human–wildlife conflict: implications for participatory conservation. *PLoS One* 7(3):e32901. doi:10.1371/journal.pone.0032901
- Grönfors M (1999) Violence, masculinity and men in Sri Lanka. In: Eskola J (ed) Tätä kehtoo tutkia. Sosiaalitieteitä savolaisittain. Kuopionyliopistonselvityksiä E. Yhteiskuntatieteet 14, Kuopio University Occasional Reports E. *Soc Sci* 14:151–156
- Jacobs MH, Vaske JJ, Roemer JM (2012) Toward a mental systems approach to human relationships with wildlife: the role of emotional dispositions. *Hum Dimens Wildl* 17:4–15
- Jhala YV, Sharma DK (1997) Child-lifting by wolves in Eastern Uttar Pradesh, India. *J Wildl Res* 2:94–101
- Johansson M, Karlsson J, Pedersen E, Flykt A (2012a) Factors governing human fear of brown bear and wolf. *Hum Dimens Wildl* 17:68–74
- Johansson M, Sjöström M, Karlsson J, Brännlund R (2012b) Is human fear affecting public willingness to pay for the management and conservation of large carnivores? *Soc Nat Resour* 25:610–620
- Karlsson J, Sjöström M (2007) Human attitudes towards wolves, a matter of distance. *Biol Conserv* 137:610–616
- Kojola I, Heikkinen S, Helle P (2011) Susikannan viimeaikaiset muutokset Suomessa eri aineistojen valossa. *Suomen Riista* 57:55–62
- Kruuk H (2002) Hunter and hunted—relationships between carnivores and people. Cambridge University Press, Cambridge
- Kumar S (2003) Wolf–human conflicts in Uttar Pradesh, India. 3rd International Wildlife Management Congress. Christchurch, New Zealand
- Lambert WW, Lambert WE (1971) Sosiaalipsykologia, KJ GummerusOy, Jyväskylä. Original Print: Social Psychology 1964. Prentice-Hall, Englewood Cliffs, NJ
- Liberg O, Chapron G, Wabakken P, Pedersen HC, Hobbs NT, Sand H (2012) Shoot, shovel and shut up: cryptic poaching slows restoration of a large carnivore in Europe. *Proc R Soc B* 279(1730):910–915
- Linnell J, Andersen D, Anderson R et al (2002) The fear of wolves: a review of wolf attacks on humans. *NINA Oppdragsmelding* 731:1–65
- Linnell J, Solberga EJ, Brainerda S et al (2003) Is the fear of wolves justified? A Fennoscandian perspective. *Acta Zool Lit* 13:34–40
- Liukkonen T, Mykrä S, Bisi J, Kurki S (2006) Ilveksiä ja ihmisiä. Julkaisuja 7, Ruralia Institute, University of Helsinki, Seinäjoki
- Livneh H, Antonak RF (1994) Indirect methods to measure attitudes toward persons with disabilities. *Rehabil Educ* 8:103–137
- Majić A (2007) Human dimensions in wolf management in Croatia: understanding public attitudes toward wolves over time and space. Thesis, Memorial University of Newfoundland, St. John's
- McNaught DA (1987) Wolves in Yellowstone—park visitors respond. *Wildl Soc Bull* 15:518–521
- MAF (2005) Management plan for the wolf population in Finland. Ministry of Agriculture and Forestry 11b/2005, VammalankirjapainoOy
- McNay ME (2002) Wolf–human interactions in Alaska and Canada: a review of the case history. *Wildl Soc Bull* 30:831–843
- McNay ME, Mooney PW (2005) Attempted predation of a child by a grey wolf, *Canis lupus*, near Icy Bay, Alaska. *Can Field-Nat* 119: 197–201
- Mykrä S, Pohja-Mykrä M (2005) Some history regarding Finland's policy on wolves and attitudes to them. In: Bisi J, Kurki S. The wolf debate in Finland. Publications 12, University of Helsinki, Ruralia Institute, Oy Fram Ab, Vaasa
- Mykrä S, Liukkonen T, Bisi J, Kurki S (2006) Kansalaisten karhukannat. Julkaisuja 6, Ruralia Institute, University of Helsinki, Seinäjoki
- Oatley K, Jenkins JM (1996) Understanding emotions. Blackwell Publishing, Cambridge
- Parrott W (ed) (2001) Emotions in social psychology. Psychology Press, Philadelphia
- Pellikka J, Lindén H, Rita H, Svensberg M (2007) Motives for voluntary wildlife monitoring in Finnish hunting teams. *Wildl Biol* 13:1–10
- Pohja-Mykrä M, Kurki S (2008) Asialistalla ahma. Julkaisuja 13, Ruralia Institute, University of Helsinki, Seinäjoki
- Pohja-Mykrä M, Kurki S (2013) Suurpetopoliittikka kriisissä – salakaadot ja yhteisön tuki. Raportteja 98, Ruralia Institute, University of Helsinki.
- Pohja-Mykrä M, Kurki S (2014) Kansallisen suurpetopoliittikan kehittämisarviointi (Evaluation of national large carnivore management), Raportteja 114, Ruralia Institute, University of Helsinki
- Pohja-Mykrä M, Vuorisalo T, Mykrä S (2005) Hunting bounties as a key measure for historical wildlife management and game conservation: Finnish bounty schemes in 1647–1975. *Oryx* 39: 284–291
- Pousette E (2000) De människoätande vargarna. BjörkelangenBok & Papper, Björkelangen
- Pyka M, Nyqvist A, Monstad T, Hagstedt J, Korsell L (2007) Illegal jakt på stora rovdjur. Konflikt i laglöst land? Brå rapport No22, Brottsförebyggande rådet, Stockholm
- Rantanen T, Vesala KM (1999) Soveltuuko asenteen käsitemyöslaadulliseen tutkimukseen? *Psykologia* 5–6:343–348
- Ratamäki O (2008) Finland's wolf policy and new governance. *J Environ Dev* 17:316–339
- Rosenberg MJ (1960) A structural theory of attitude dynamics. *Publ Opin Q* 24:319–340
- Røskoft E, Handel B, Bjerke T, Kaltenborn BP (2007) Human attitudes towards large carnivores in Norway. *Wildl Biol* 13(2):172–185
- Schanning K (2009) Human dimensions: public opinion research concerning wolves in the Great Lakes States of Michigan, Minnesota, and Wisconsin. In: Wydeven AP, Van DeelenTR, HeskeEJ. (eds) Recovery of gray wolves in the Great Lakes Region of the United States. Springer, New York, pp 1–15
- Simpura J, Fahrenkrug H, Hyttinen M, Thorsten T (1990) Drinking, everyday life situations and cultural norms in Denmark, Finland, and West Germany: an experiment with non-active role-playing. *J Drug Issues* 20:403–416
- Smith DW, Bangs EE, Oaklea FJK et al (2010) Survival of colonizing wolves in the northern Rocky Mountains of the United States, 1982–2004. *J Wildl Manage* 74:620–634
- Teel TL, Manfredo MJ (2010) Understanding the diversity of public interests in wildlife conservation. *Conserv Biol* 24:128–139
- Teperi J (1977) Sudet Suomen rintamaiden ihmisten uhkana 1800-luvulla. Historiallisiatutkimuksia 101. Suomenhistoriallinen seura, Helsinki
- Treves A, Karanth KU (2003) Human–carnivore conflict and perspectives on carnivore management worldwide. *Conserv Biol* 17:1491–1499
- Vaske JJ, Roemer JM, Taylor JG (2013) Situational and emotional influences on the acceptability of wolf management actions in the Greater Yellowstone Ecosystem. *Wildl Soc Bull* 37:122–128
- Verchick RRM (2004) Feminist theory and environmental justice. New perspectives on environmental justice: gender, sexuality and activism. New Brunswick Rutgers: University Press
- Vesala K, Rantanen T (2007) Laadullinen asennetutkimus: lähtökohtia, periaatteita, mahdollisuuksia. In: Vesala K, Rantanen T (eds) Argumentaatio ja tulkinta. Laadullisen asennetutkimuksen lähestymistapa. Gaudeamus, Helsinki, pp 11–61
- Williams CK, Ericsson G, Heberlein TA (2002) A quantitative summary of attitudes toward wolves and their reintroduction 1972–2000. *Wildl Soc Bull* 30:575–584