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# Targeted removal of wolves: analysis of the motives for controlled hunting

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The return of the grey wolf *Canis lupus lupus*, after a temporary absence, to rural and forest-fringe areas has resulted in more encounters between humans and protected wildlife when wolves prey on farmers' and hunters' living private property. In locations where wolves are considered problematic, permits can be issued for the controlled hunting of individual wolves to protect livestock and companion animals and prevent damage. I examine applications for the targeted removal of problematic wolves in Sweden through lethal control, and authorities' decisions regarding controlled hunting. The empirical basis of the paper is a content analysis of applications for and decisions regarding controlled hunting. The data concern three counties in middle Sweden, with 2002–2010 as the study period. I analyse 1) the applicants' stated reasons for applying for controlled hunting and 2) the authorities' rationales for rejecting or approving these applications. My aim is to identify the aspirations, desires, and motives evident in these texts.

In investigating controlled hunting applications and decisions, the paper applies anthropological perspectives on ecosystem management, place and landscape, and decision-making, and the results illustrate the underlying framing of the reasons favouring lethal removal. We encounter a layered reflexive communication of intentions and beliefs regarding the goals and interests that should guide state action to manage wolves demonstrating 'transgressive' and 'unnatural' behaviour threatening the local social and cultural environment. Perceptions diverge regarding how best to understand the natural landscape and how such understandings are embodied in applications and decisions regarding the targeted removal of wolves.

As illustrated by the return of the grey wolf *Canis lupus lupus* to Swedish rural and forest-fringe areas, recovery policies and strategies can give rise to locally undesired and politically unintended consequences. Growing wolf populations in agricultural and forested areas have led to an increase in encounters between humans and state protected wolves and farmers and hunters fear wolf attacks on farm animals and companion and hunting dogs. Although highly valued by those committed to conservation and reversing ecological damage caused by human exploitation (Fritts et al. 2003) and conceptualized as a key ecosystem species (Mech and Boitani 2003), the wolf is also considered an impediment to rural livelihoods and survival when they prey on farmers' and hunters' domestic animals (Theodossopoulos 2003, Ministry of the Environment 2009, Sjölander-Lindqvist 2009). In areas where protected large carnivores are considered problematic, and neither permanent measures (e.g. predator fencing, night pens, and increased supervision) nor emergency procedures (e.g. intimidation and occasional predator fences) are found sufficient to prevent attacks on domestic animals, controlled hunting may be used to protect domestic animals and prevent damage. Farmers and hunters can either shoot the attacking carnivore (or carnivores) to prevent or limit damage to their livestock or dogs, or they can request

that the authorities lethally remove a certain wolf or wolf pack to prevent harmful attacks on humans and domestic animals.

This article analyses applications for the controlled removal of dangerous wolves and the Swedish Environmental Protection Agency's (SEPA's) reasons for rejecting or approving these applications. In doing so, I use an anthropologically informed approach whereby the applicants' reasons and motives for applying for controlled hunts and the authorities' decisions are understood as articulating local and organizational concerns about the place and role of human and non-human animals in the socio-ecological environment (Ingold 1988, Mullin 1999, Knight 2000b, Hurn 2012). Using this approach, I explore the social, cultural, and organizational conditions underlying the reasons and motives for wolf hunting applications and decisions. The paper reflects on how wolf attacks on farmers' and hunters' domestic animals incite a clash of perspectives regarding wolf presence in the fauna and landscape. In this process, authorities' decisions build on a comparative appreciation of local problems versus state aspirations to support wolf recovery. Decisions regarding the targeted removal of individual wolves deemed problematic to local communities serve to link the private and public domains, allowing the state, through government

processes, to relate to and contest or enforce local circumstances, sentiments, and desires.

## Controlled hunting

Reviewing the literature on human–carnivore threats to human life, economic security, or recreation, we find that these conflicts often pit conservationists against private property owners, and against carnivores (Sharpe et al. 2001, Treves and Karanth 2003, Decker et al. 2012). Around the world, resolving conflicts between livestock and large carnivores such as wolves, bears and lions remains a challenge for wildlife management. As in the Swedish case, large carnivores are highly symbolic animals, their presence perceived as a threat to human safety and the cause of damages on private property (Brownlow 2000, Morris 2000, Bangs and Shivik 2001, Knight 2003, Treves et al. 2006, Treves 2008). In many regions of the world, lethal control is therefore conceived as a useful component in the management of livestock-depredating animals, balancing political and conservation goals, and mitigating and preventing conflicts (Mech 1995, Treves and Karanth 2003). It has been suggested that such measures may facilitate the public's approval of conservation politics and conservation initiatives (Treves and Karanth 2003).

Controlled hunting is governed by Swedish hunting legislation (i.e. the Hunting Act and the Hunting Ordinance), which is based on exemptions under the European Commission's Species and Habitats Directive (92/43/EEC), the Birds Directive (2009/147/EC), Sweden's Coherent Predator Policy (Ministry of the Environment 2001) and agency regulations (Swedish Environmental Protection Agency 2013). The Habitats Directive, in addition to the conservation of natural habitats and the habitats of species, also covers the protection of species since "preserving, protecting and improving the environment, including biodiversity, are essential objectives of general interest and pursued by the European Community" (92/43/EEC). This sentiment is confirmed by Swedish predator policy. Articles 12 and 16 of the Habitats Directive call for a strict protection regime to be established and implemented; provided there is "no satisfactory alternative and the derogation is not detrimental to the maintenance of the populations of the species concerned at a favourable conservation status in their natural range, Member States may derogate from the provisions of Articles ..." (92/43/EEC, Article 16.1). According to praxis of the European Union Court, member states cannot solely refer to economic, social and cultural conditions when deciding on lethal removal of a problematic livestock-depredating protected animal.

The SEPA or regional agencies (i.e. County Administrative Boards, CABs) may issue controlled hunting orders for problem-causing individual brown bears, lynxes, wolves, and wolverines in counties with permanent (i.e. for at least three years) populations of the predator species.

In 2009, the Swedish parliament decided to favour the regionalized delegation of decisions regarding controlled protective hunting in counties possessing reproducing wolf packs for the last three years. In practice, however, the SEPA has continued acting as the main decision-maker with the CABs as a referral body.

Regulations approve the issuance of controlled hunting permits for any of the following four reasons, each reason subject to the exemptions outlined in the Habitats Directive (Article 16.1): 1) public health and security are at risk; 2) the measure is necessary to prevent damage to crops, livestock, forests, fisheries, water or other private property; 3) the measure is necessary to protect wild flora and fauna, to preserve their natural habitats; or 4) in case of overriding public interest, including social or economic aspects, with significant positive influence on the environment (Swedish Environmental Protection Agency 2012). The issuing authority must first clearly determine that controlled hunting is the only possible solution to the problem. This means that the authority must assess the preventative measures that have been tried. Such measures include intimidating the dangerous animals (by screaming, shouting, throwing stones and gun-firing), temporary emergency fencing, light and sound alarms (using radio-controlled timers), and motion sensors. If these measures are found unsatisfactory, controlled hunting may be considered the most appropriate solution to the problem. Second, controlled hunting should not jeopardize what is termed "favourable conservation status" (92/43/EEC). Third, the authorities must decide whether the applicant is entitled to have the application for controlled hunting examined, meaning that only those who have been exposed to damage, or are at the risk of being so exposed, can have their cases examined. This means that only property owners can be granted controlled hunting permits.

The SEPA employs the CABs and the Wildlife Damage Centre (a centre that informs and educates authorities and farmers about damages on livestock and crops caused by protected wildlife) as referral bodies in making decisions regarding applications for controlled hunting. These bodies are asked to assess local community concerns, determine whether preventative measures have been tried and, if so, assess their effectiveness, and genetically evaluate the concerned wolf individual/individuals.

## Research approach

In seeking to understand the present conflict regarding the presence of wolves in the Swedish countryside, research has explored social, cultural, and political factors to explain why the supposed benefits of the survival of this species have proven elusive. It has been proposed that environmental controversies illustrate divergent perceptions of the local environment (Wilson 1997) and that political ideology is correlated with how people conceptualize human–natural relationships (Sjölander-Lindqvist et al. 2008, Cinque et al. 2012). The socio-cultural embedding of the process leading up to authorized decisions regarding controlled hunting has yet to be explored. The present investigation of the reasons and motives for controlled wolf hunting fills an important lacuna, as it addresses how the processes whereby the private and public domains become nested are linked, on the one hand, to hierarchical systems of plans and, on the other hand, to how experiences, emotions, and ideas regarding human–wildlife interaction become integral to the decision-making process.

Framing the research was the understanding that the introduction of management regimes emphasizing the importance of conservation, and of maintaining and enhancing the environment and ecosystems, may intrude on local livelihoods (Knight 2000b, Theodossopoulos 2003, Sjölander-Lindqvist 2008, 2009). Following this line of thought, the article assumes that perceptions and values of the local environment, including the landscape and particular places where people live and work, can frame both the rise of local desires and the struggles to maintain social and cultural values and practices associated with local livelihoods (Hornborg 1994, Nesbitt and Weiner 2001, Sharpe et al. 2001, Robbins 2002, Mairal Buil 2004). This perspective is useful in understanding how tangible conditions in a local environment, and the associated values of its residents, that mirror the understandings and experiences acquired from lived, everyday involvement in the world, inform and frame applications for targeted lethal control of wolves that are conceived as problematic and causing damages on private property or jeopardizing human safety.

From an anthropological perspective, applications for controlled hunting and the related authority decisions articulate concerns about agency, space, and politics. Instituted to seek resolution of conflict regarding the consequences of wolf presence in the Swedish countryside, these applications and related decisions comprise, as well as activate, ideas and values concerning people's connections, associations, and relationships with their environment, each other, and the species inhabiting forest-fringe lands. For example, in a study of the British fox hunt, Marvin (2003) examines how the fox, like the wolf in the Swedish landscape, is understood by certain groups as an ecosystem component that encroaches on the societal sphere (Marvin 2003). Since the fox is interpreted as a destructive species undermining human activity and as "matter out of place" (Douglas 1966, p. 35), lethal control is understood as helping re-establish control over the animals' inappropriate and "unacceptable" behaviour, such as killing livestock (Marvin 2000, 2003, Linnell et al. 2005). Similarly, the authorities articulate a framework and rationales for action when evaluating and approving or rejecting applications for lethal removal according to approved reasons for controlled hunting. Present-day ecological interventions are thus activities directed by contemporary nature conservation politics.

Through controlled hunting applications and decisions, formally and interstitially defined interests, goals, and reasons for actions are exchanged. As a particular kind of text, the applications and authority decisions are not only statements tied to particular contexts and actions describing the past, present, and future, but also documents expressing intentions of the state (Abram and Wieszkalnys 2011) and of local actors. The applications for and resulting issuance of orders for controlled hunting coordinate action with the intention of achieving particular outcomes that concretize both micro- and macro-level images and practices (Ferguson and Gupta 2002). The presence of large carnivores can be said to create a buffer zone between the private and public domains, or in other words, a location for the different actors to engage in defining and mediating what they refer to as political and culturally relative and historically specific when it comes to human-wildlife coexistence. In this 'zone, the state is through

decisions regarding applications for the targeted removal of problem-causing wolves given the opportunity to negotiate with local stakeholders. The opportunity for concerned local stakeholders to apply for the lethal removal of problem-causing wolves can be seen as a productive process around which concerned actors rally, and the resulting decisions are reached via actor interaction and negotiation (Flyvbjerg 1998, 2001, Roberts 2008). From these perspectives, controlled hunting constitutes a multi-vocal and relational entity connecting the micro and macro levels (Rodman 2003), and the procedures for controlled hunting constitute a form of social action (Appadurai 1995) practiced for a particular reason (Ingold 2000, Knight 2000a, Marvin 2000, 2003, Harker and Bates 2007, McLeod 2007). In the present investigation of controlled hunting applications and decisions, decision-making emerges as temporally nested, involving mutually committed agents and casting some decisions as possible and agreeable, and others as off limits (Toda 1976, Langley et al. 1995, Colebatch 2010).

## Methodological approach

I have used exploratory content analysis to interpret the contents of controlled hunting applications and decisions through a process of coding and identifying themes and patterns. This approach is typically appropriate when the research literature on a given phenomenon is limited or non-existent (Hsieh and Shannon 2005) and when the purpose of the research is to provide insight into the cultural understanding of human thought and behaviour (Bernard and Ryan 1998). I treat texts as documenting the social, political, and cultural contexts in which they are produced (Bernard and Ryan 1998). This approach allows the reconstruction of the past, present and future (Brettell 1998) of the concerned parties, and lets us see how texts not only control but also objectify extra-local relationships and activities (Smith 2001).

This form of qualitative and exploratory content analysis avoids preconceived categories to allow new insights to emerge (Kondracki and Wellman 2002). This approach allows the researcher, through the use of inductive (open) coding, to identify themes in the texts, describe them, compare themes across texts, and finally to parse text themes (Bernard and Ryan 1998). This allows the researcher to seek meaning and thematic patterns, treating documents as a source of information on social, political, and cultural reality and as a window into human experience (Brettell 1998).

The studied texts (i.e. applications and authority decisions) were sampled from the SEPA website and archive. Applications ( $n = 91$ ) and decisions ( $n = 91$ ) from the 2002–2010 period were sampled for the counties of Dalarna, Värmland and Västra Götaland in central and southwest Sweden. In this area, we find most of the Scandinavian wolf population; in fact, the counties of Dalarna and Värmland have long harboured wolf populations. Farming in the area is mainly small in scale and farm incomes usually depend on several activities. Animal husbandry as well as dairy and meat production are major agricultural activities, supplemented by income from leasing hunting grounds and by EU agricultural subsidies. As agricultural land in Dalarna County was not partitioned in the nineteenth century (as happened



in most other parts of Sweden), farmers there, and to some extent also in Värmland, have continued the tradition of seasonal pasturing, meaning that they lead their livestock to graze in fenced and unfenced summer pastures outside the villages, in both forests and open fields near summer farmhouses. This tradition has proved difficult to maintain due to the presence of large carnivores (Sjölander-Lindqvist 2009).

Data analysis started with determining how many applications had been submitted from 2002 to 2010 and categorizing applicant identities. Six appropriate categories were found according to the initial classification of application affiliation: group of property owners (GPO), individual property owner (IPO), single organization (SO), group of organizations (GO), organization and IPO (O/IPO), and county administrative board/municipality (CAB/M). I continued the analysis by reading the material repeatedly to obtain a sense of the whole (Tesch 1990), and next underlined key phrases to determine whether or not certain themes occurred, and comparing these themes across texts. The main stated reasons for the proposed controlled hunting, and how the SEPA justified its decisions to either reject or approve applications, were the focus. In the case of authority decisions, the text analysis outlined how the SEPA justified the four regulatory reasons for controlled hunting.

Paragraph and sentence contents or words that occurred in more than one text were tagged and served as reference markers, and were subsequently coded into explicit categories. The analysis of applications and decisions was based on the identification of regularities in narrative performance. Paying particular attention to the submitters' and decision-makers' motives and experiences, the analysis sought to identify themes that emerged when reading the documents to address the contextual meaning of the contents (Tesch 1990).

In presenting the results, first, the proposals for controlled hunting will be outlined, after which decisions to reject or approve these applications will be explored and analysed.

## Results

### Proposals for controlled hunting

Between 2002 and 2010, 91 applications were submitted concerning requests to shoot one or more wolves in a certain territory in the case study area. Starting from only a few applications between 2002 and 2006, the number of applications increased to 14 in 2007, decreased to five in 2008, and increased again to 32 in 2009. The number of applications was again low (three applications) in 2010 (Fig. 1).

Most applicants come from the SO category, representing mainly hunters' or hunting dog associations (Fig. 2). From 2003 to 2010, most applications were in fact submitted by single hunters' or hunting dog associations ( $n = 50$ ). GOs constitute the second largest category, which includes proposals signed by two or more organizations (e.g. a local branch of the Federation of Swedish Farmers collaborating with a hunting group) ( $n = 14$ ), followed by IPOs ( $n = 12$ ). On only one occasion did an organization (i.e. a hunting association) and a private property owner cooperate; this

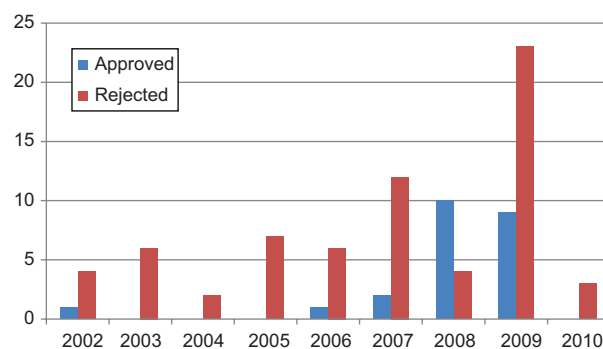


Figure 1. Approved and rejected applications, 2002–2010.

case concerned a wolf in the county of Dalarna that, in the summer of 2006, repeatedly attacked flocks of sheep near the village of Bjursås and approached and even entered the village in daytime.

Regional authorities submitted proposals on two occasions. In 2006, the Värmland CAB suggested regionalizing wolf population management since “residents’ fear of uncontrolled population growth and the ad hoc management of problem-causing wolves reduces local acceptance of large carnivores and erodes trust in management authorities” (Application, 2006-02-21), and therefore proposed a new management plan including the introduction of licensed hunting. Two years later, in 2008, the Västra Götaland CAB applied to remove what turned out to be a highly dangerous wolf in a territory some 50 km north of Sweden’s second largest city (Gothenburg). In the summer of 2008, this wolf repeatedly attacked farm animals and injured or killed nearly one hundred sheep. The debate was intense that summer, and farmer’s and hunter’s associations collaborated with the CAB to find a solution to the problems caused by the wolf.

In terms of the number of wolf cases cited by applicants, with 22 cases, 2009 displayed a marked increase relative to the numbers in previous and following years (ranging from two to seven cases). Some cases, for example, the 2009 case of two wolves in the Fulufjäll area in the county of Dalarna, where wolves were reported as behaving intrusively, attracted considerable attention among applicants. The approval of controlled hunting for these two wolves followed five applications.

### Content analysis of applications

The analysis of the applications for the lethal removal of wolves identifies various motives and arguments (Fig. 3), and we see that the applicants are concerned that the presence of wolves has led to, and may lead to, attacks on private property. The proposals therefore, with few exceptions, tell of attacks on farm animals, hunting dogs, companion animals such as cats, and wildlife that are said to be caused by either a single wolf or several wolves. The accounts often describe how local residents have been affected by the attacks, and how they fear they will be affected in the near future if the wolf is not lethally removed from the area.

For all these years [since 2005], the bitch has taught her puppies to fearlessly attack sheep in fenced pastures. Despite predator-safe fences, the wolves have entered

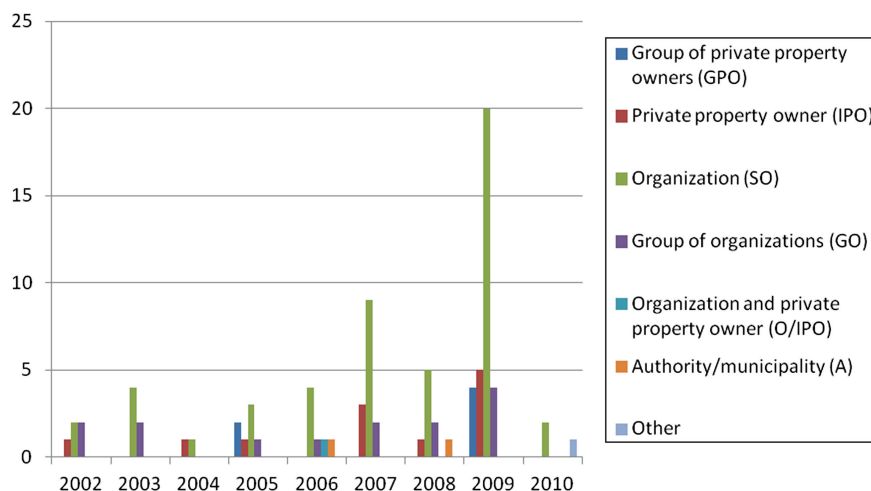


Figure 2. Applicant affiliations.

the pastures ... this last year [i.e. 2009] we have, here in the villages of Våls and Lekvattnet, had four attacks on sheep flocks and 20 sheep have been killed in the last two weeks. Despite emergency measures, the wolves keep coming back. They appear to be unafraid and their behaviour is abnormal. ... To prevent further attacks by these abnormal wolves, we urge the authorities to lethally remove them from the area. (Application, 2009-08-01)

The hunting of certain individual wolves is said to help reduce wolf damage, but is also described as a measure that will help teach other wolves how to behave near human settlements. The intrusive behaviour of wolves and their residence near villages and farmsteads are commonly cited problems (Fig. 3), and controlled hunting is suggested to be a measure that can help control “unnatural” wolf behaviour. This, as explained in the applications, will help prevent worries among community residents.

Several wolves unabashedly live near our villages. They have killed roe deer and their behaviour has created extremely unsafe conditions for villagers. Numerous villagers tell of how the wolves walk on village roads and enter backyards....They have scared horses out of a fenced pasture, and the horse owner witnessed

how this situation has caused the horses to behave restlessly. The whole situation is very unsettling and many villagers stay in their houses and are afraid to take an evening walk. Tragically, we don't feel safe enough to let our children play outside. People are frustrated and worried about this alarming situation, and something must be done to bring this nightmare to an end. (Application, 2009-01-02)

The reasons stated in the proposals largely concern various aspects of local community life and the environment. “Damage and risk of further attacks” is, for example, one of the reasons most frequently cited in controlled hunting applications. In some cases, this reason is followed by arguments concerning how predator presence affects farmers’ and hunters’ ‘land use’ when they, because of fear of attacks, give up their activities, and why it is justifiable to lethally remove the wolf or wolves. The applicants often claim that the local way of life is threatened by wolf behaviour, for example:

We cannot spend time in the woods because wolves, on several occasions, have followed horse riders. Several dogs and farm animals have been killed and we cannot let our children walk to their school bus because wolves are lurking around our houses. (Application, 2007-02-01)

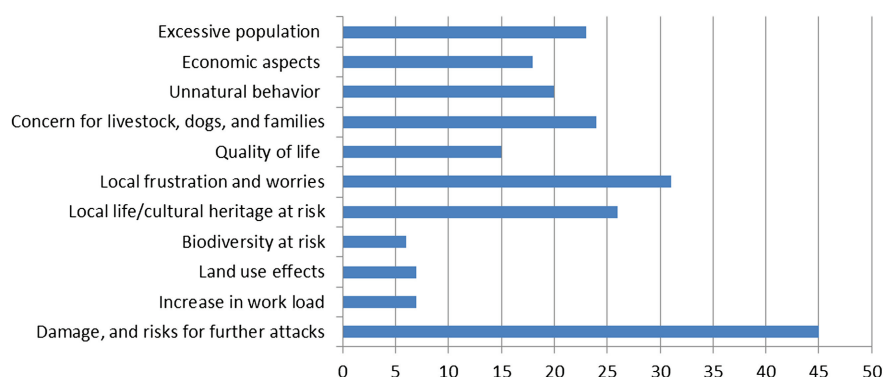


Figure 3. Frequency of reasons cited in applications, 2002–2010; an application can mention more than one reason.

Feelings of 'frustration' and 'worry' in relation to the risk of wolf attack are, as demonstrated by the above quotations, cited when arguing for controlled hunting, and we can see how these feelings underlie many other concerns mentioned in the applications.

The applicants claim that 'quality of life' is jeopardized by the presence of dangerous wolves due to peoples' fear of attack. This has, as they reason, made it difficult to continue small-scale farming, hunting, and other recreational activities (e.g. berry-picking, mushrooming, orienteering, and horseback riding; Sjölander-Lindqvist 2008, 2009) because local residents avoid spending time in the forests.

The presence of wolves in the surrounding woods has changed the outdoor life. Since people fear attacks, they no longer leave their dogs unleashed during berry-picking and hunting. (Application, 2002-08-13) Although we can question the rationality of feeling scared of attacks, we cannot question the residents' feelings. These have affected local life. Since dogs are very close to humans, attacks on dogs result in great anger and considerable worry among hunters and other local residents.... They feel powerless and anxious regarding their animals. (Application, 2002-08-13)

In the IPO category, for example, summer pasture farmers state that they cannot continue the tradition of unfenced grazing because their livestock could be attacked. According to their claims, local flora and fauna, 'biodiversity', and 'cultural heritage' will be threatened if farmers give up small-scale agricultural activities.

As seen in Fig. 3, the applications express "concern for livestock and families" and, besides the restriction of outdoors life, also claim that children and families should not bear the emotional burden of having their companion animals exposed to wolf attacks, possibly being killed.

The applicants also cite the "unnatural behaviour" of the wolves, which have lost their natural fear of humans and human settlements, making controlled hunting necessary to recreate the barrier between human and wildlife habitats.

Among GPOs, a category consisting mainly of reindeer owners, "economic aspects" are the main cited reason for targeted removal. For reindeer owners, an attacking wolf can cause severe economic damage. Other 'economic aspects' refer to the state's compensation for damage to domestic animals, which is claimed to be insufficient, covering neither

the costs to the property owner nor the full value of killed or injured animals. It is also stated that the subsidies provided for the construction of predator-safe fencing are insufficient and do not cover the full costs.

Finally, the claim that the wolf "population is too large" is also fairly common. In 2009, most proposals claimed that the wolf population increase must be halted. The proposals describe controlled hunting as an appropriate measure to prevent problem-causing behaviour and claim that wolf population levels must be set in regional management plans.

Less common reasons, as seen in Fig. 3, are "increase in work load" and "biodiversity at risk". "Increase in work load" alludes to how wolf presence has necessitated greater effort to guard farm animals, or the use of highly labour-intensive preventative measures, such as predator-safe fencing. "Biodiversity at risk" implies that wolf presence will lead to the giving-up of small-scale agriculture, and discontinued farming and livestock husbandry practices, which eventually may lead to the reforestation of open fields.

### Decisions regarding controlled hunt proposals

Of the 91 applications submitted from 2002 to 2010, the authorities decided to approve 23 and reject 68. With the support of the Hunting Ordinance, these decisions resulted in nine wolves being culled in the counties of Dalarna, Värmland and Västra Götaland. Whereas only one wolf was culled in Västra Götaland, five were culled in Värmland and three in Dalarna. Investigation of these decisions indicates that 2007 and 2009 had the highest number of rejections (Fig. 1). The SEPA rejected twelve proposals and approved of two in 2007, and rejected 23 and approved of nine in 2009. Also note that, in 2009, five decisions (all rejections) were reached regarding applications submitted in 2008.

Turning to the motives for either approving or rejecting applications, we note that the authorities make decisions with reference to the four regulatory reasons for controlled hunting, though they also provide a justifying context for their decisions. In outlining their decisions they discuss the damage context: for example, whether the damage level is high or low, whether there is a risk of further attacks, how the local community has responded to the damage inflicted, whether the behaviour can be regarded as 'normal', whether the human population is at risk, and whether the wolf population dispersal and increase are satisfactory (Fig. 4, 5).

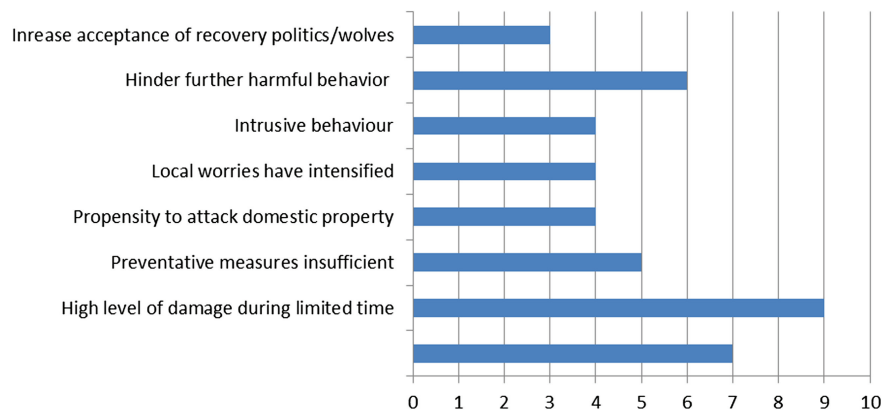


Figure 4. Reasons for authorities' approval, 2002–2010; a decision can cite more than one reason.

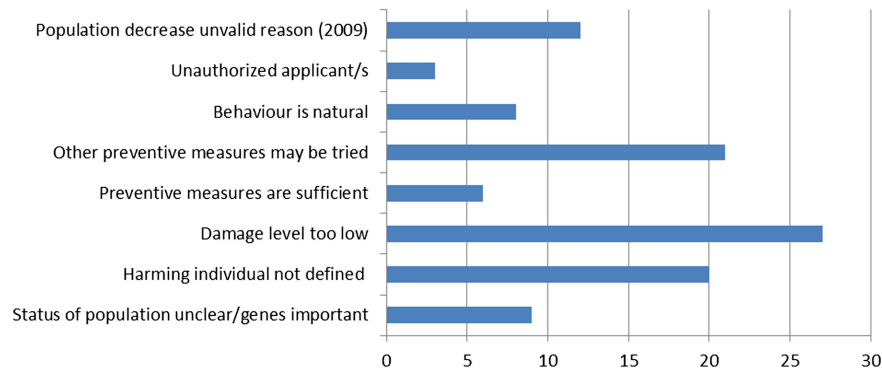


Figure 5. Reasons for authorities' rejection, 2002–2010; a decision can cite more than one reason.

The approvals make it clear that lethal removal is the only remaining solution: they state that the authorities have assessed the functionality of preventative measures, and that these have proven unable to alter the wolves' intrusive and damaging behaviour. The analysis demonstrates how all approved cases involved what is referred to as "a high level of damage" caused within "a limited period of time", and were in this sense regarded as "extraordinary" and outside expectations. This extraordinary nature of the attacks is illustrated by citing frequent and numerous attacks on farm or companion animals:

In the area there are over 100 flocks of sheep. In no other wolf territory do we find such a large number of flocks. Over the last thirteen days there have been four attacks and it is very difficult to take satisfactory preventative measures. For these reasons, the Environmental Protection Agency regards the injuries as serious. (Decision 411–5889-08)

The decisions also state that other "preventative measures have been found insufficient, too time-consuming, or difficult to implement" in a functional way, for example, due to landscape geography or, as in the above case, because of the huge number of farm animals.

The dangerous wolves may also be characterized as displaying "unnatural and intrusive behaviour" and a "propensity to attack domestic property", and the decisions mention that "local worries have intensified" due to these attacks. For example, in the county of Värmland, the "wolf's intrusive behaviour is leading to great worries in the area, and the wolf has been found following horse riders" (Decision 411–6547-08). The decisions therefore implement "rapid intervention" to "hinder further harmful behaviour".

Since 2008, the SEPA has further justified their approvals by referring to the wolves' genetic situation as "favourable", meaning that lethal removal will not jeopardize the population's recovery.

Application rejections occasionally state that the "status of the population is unclear" and that the genetics of the concerned individual or individuals may be valuable, though these reasons are rarely cited (Fig. 5). An application's failure to identify the specific harmful wolf is a frequent reason for rejection, together with the damage level being too low. Rejections also state that the "preventative measures employed have proved sufficient" in preventing further damage or that "other preventative measures should be tried"

before lethal control. Dialogue with local community residents, for example, is suggested as a measure that should be employed to reduce local worries, or more frequent use of collars equipped with bells that can scare the wolves away during attacks. It is also claimed that the "behaviour of the intruding animals is natural". In 2009, some applications proposed a general hunt to reverse wolf population increases. The SEPA answer to these applications was that regulations only allow controlled hunting of specific wolves causing extensive damage, and in situations in which other preventative measures have proven insufficient and hunting would not hinder the preservation of the species. The importance of defining a harmful individual is often cited in SEPA wolf-culling decisions.

## Discussion

Present-day ecological interventions to help endangered species retain their places in the environment are directed by contemporary nature conservation politics. Conservation outcomes, however, are also conditioned by the understanding that predatory animals encroach uninvited on humanized habitats and have consequences for local livelihoods, causing hostility towards the presence of large carnivores. Since "it is the local people who are experiencing the costs of living alongside wildlife" (Woodroffe et al. 2005, p. 402), the locally undesired and politically unintended consequences must be acknowledged (Tsing 2001, Brechin et al. 2003, cf. Ministry of the Environment 2007). This turns out to be essential to both the proposals for controlled hunting and to the state's decision-making regarding the targeted lethal removal of problematic wolf individuals.

From the analysis of the data collected, we see how the understanding that wolves' transgressive behaviour must be dealt with is reinforced and how the applicants demand that decision-makers acknowledge local worries about destructive attacks on their domestic animals. For example, the wolf is said to be problematic because it (might) prey on domestic animals and therefore represents a menace to domestic animals. In highly problematic situations with a high level of damage, the authorities may agree and therefore approve of lethal removal.

Fearing that prowling wolves will threaten dogs and livestock, the applicants claim that the wolf population should be controlled to protect rural heritage and the rights and



property of people residing in wolf-inhabited lands (Fritts et al. 2003, Woodroffe et al. 2005b, Sjölander-Lindqvist 2009). From this perspective, wolf presence is regarded as detrimental to humans and as undermining opportunities for farming, hunting, and other outdoor activities (e.g. orienteering, mushrooming, and berry picking) in forested and farmed areas (Linnell et al. 2005). Pertinent to this is the question of access to, and control over, the environs of local communities without the risk of private property (i.e. livestock and hunting dogs) being subject to wolf attacks (McCarthy 2002, Sjölander-Lindqvist 2008).

It has been proposed that hunting can help reduce conflict, since hunting “gives local people a sense of active involvement in the curbing of a problematic situation” (Linnell et al. 2005, p. 173). In their study of the black bear hunt in the state of New Jersey, USA, Harker and Bates (2007) report that “the hunt becomes an act of public defence and safety” (p. 343; cf. Proctor 1998). Similarly, the present study suggests that decisions regarding controlled hunting represent attempts to settle disputes concerning the material and social impacts of wolves. Controlled hunting to alleviate problems facing rural communities is established as an act supporting and recognizing the interests of farmers, hunters, and local residents and safeguarding local values and traditions.

Interpreted as a destructive species undermining human activity and as “matter out of place” (Douglas 1966, p. 35), the wolf is treated, as is the fox in Britain by fox hunters (Marvin 2003), as extraneous to nature. Hunting wolves is conceived as a measure that will help re-establish control over animals’ inappropriate and “unacceptable” behaviour, such as killing livestock (Marvin 2000). In this sense, controlled hunting can be viewed as a means to reconfigure the boundary between the human social domain and the wilderness (Marvin 2003). Through hunting animals locally perceived as detrimental to residents’ livelihoods, societal and natural order can be restored (Descola and Pálsson 1996).

In investigating the controlled hunting applications and decisions, this study has identified the frameworks underlying the aspirations, desires, and motives outlined in the studied texts. Through applications for the targeted removal of wolves, the concerned stakeholders and the authorities exchange information and negotiate large carnivore policies and regulations, and share the experienced drawbacks of large carnivore presence in the local environment. Through exchanging proposals and decisions, the parties discuss and negotiate an understanding of large protected carnivores and communicate the reasons for protective measures. Through making applications for controlled hunting, local residents try to influence conservation activities and decisions. Linking the private and public domains, the applications and the resulting decisions connect local sentiments and desires to structures of social order, power, and hierarchy. Arguing that the presence of wolves has local consequences for the keeping of domestic animals and for community life, the applicants articulate a “locality” discourse (Appadurai 1995). Their own experiences are constituted as vital and are brought into the decision-making process. In this realm, the controlled hunting applications and decisions activate and reinforce condensed meanings that stem from contexts

framed by horizons of perceptions and expectations of the role of the state and local community in conservation.

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