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*“Let’s all ‘Cry Wolf’ more positively”: Changing perception and collective action on biodiversity loss in Norway*

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Jasper Doest. (Photographer). *Gray Wolf* [digital image]. Retrieved from: <https://www.mindenpictures.com/search?p=2&r=329761828>

**Target recipient**

The following scientific evidence and suggestions are offered as a response to Norway’s newly formed wolf policy which has raised ethical and environmental concerns amongst the

public. The climate and environment minister is the recipient of this brief bearing in mind that he will be the one reviewing and making the final decision about the policy.

## Executive Summary

Biodiversity conservation is an important component in achieving a sustainable future. There is growing evidence of the importance of preserving biodiversity to help sustain ecosystem functioning and services (Folke, et al., 2004). When already being under the threat of inbreeding depression and poaching, the new policy set by the Norwegian government to cull 15 out of 68 wolves can possibly drive the Scandinavian wolf extinct in Norway. Additionally, the new policy is at odds with the Berne convention, an international treaty, in which Norway signed in 1979 where the wolf is enlisted as strictly protected fauna species. As the wolf plays an important part in the Norwegian ecosystem, the killing of one fifth of its population can lead to negative impacts on both the biotic and abiotic components of the ecosystem. Thus, possible alternatives to the current policy are: encourage behaviour change amongst farmers through cutbacks on farmer compensation; and to incorporate a livestock-guarding dog programme into the already existing national framework for prevention and conflict mitigation.

## Empirical analysis

### The wolf and the current policy

*Canis Lupus* is amongst the top predator in the Norwegian ecosystem. A drastic change in the population of a large carnivore such as the wolf, will affect the entire food-chain and ecosystem (Pace, Cole, Carpenter, & Kitchell, 1999; Hebblewhite, et al., 2005). This chain of impact is known as a trophic cascade and is defined as "reciprocal predator-prey effects that alter the abundance, biomass or productivity of a population community or trophic level across more than one link in a food web" (Pace, Cole, Carpenter, & Kitchell, 1999, p. 1). Culling 15 wolves is thus an act that can have rippling effects with impacts which can alter the entire ecosystem as the negative changes feed down the food-chain. Our ecosystem is an interconnected and complex system which flourish in an environment with diverse species interacting with each other. Bearing in mind that the ecosystem has evolved to adapt to the current environment, taking out a predator such as the wolf, a natural component of the ecosystem, in such a fast and drastic way can cause unprecedented and unpredictable impacts which are best left undiscovered.

#### Summary:

- Summer 2016: Norwegian government agreed to cull 47 out of the existing 68 wolves.
- Protest and demonstration followed this policy implementation
- December 2016: Through re-evaluation it was clear that culling 47 wolves does not comply with the Berne convention.
- As a result, the number was lowered to 15 wolves.

(Sutterud & Ulven, 2016)

The Scandinavian wolf, which includes Swedish and Norwegian wolves, has a very flexible diet. Although elk and deer is their preferred prey, in periods with low elk and deer populations they also prey on other animals ranging from moose to rodents (Artsdatabanken, 2015). Due to their flexible predation habit, the current policy to cull 15

wolves is made to ensure public safety and prevent livestock depredation (Klima- og miljødepartementet, 2016).

### Threats to the Norwegian wolf population

For this brief, it has been identified two threats which can endanger the species. These are: severe inbreeding depression and poaching. Due to these factors (along with other factors), the wolf is listed as critically endangered in Norway (Artsdatabanken, 2015).

Because the Scandinavian wolf is functionally isolated from the Finnish-Russian population and the rest of Europe, the Scandinavian wolf has been found to have severe inbreeding depression (Liberg, et al., 2005). With an increasingly smaller population, the effects of poor genetic variation will become profoundly evident in terms of; litter size, survival and mortality rate of younger pups, body size and the ability to combat diseases and changes in living environment (Liberg, et al., 2005; Miljødirektoratet, 2016).

A second threat that can affect the population size is poaching. Although many species are poached for commercial purposes, the wolf is likely killed due to conflicts with human interest, threat to livestock and human safety, and/or competition for game (Liberg, et al., 2012; Treves & Karanth, Human-carnivore conflict and perspectives on carnivore management worldwide, 2003). Liberg et al. in 2012 found that there was high incidence in poaching of *Canis Lupus* population, and thus argued that the observed mortality rate cannot solely be explained by the observed population trend (Liberg, et al., 2012). The argument posed by Liberg et al. can suggest that current official data, which the policy is based upon, is skewed and does not reflect the real situation of the wolf population in Norway. In another study Gangaas et al. found high acceptance rate for illegal hunting in Norway – especially in rural regions with free-grazing sheep and long hunting traditions (Gangaas, Kaltenborn, & Andreassen, 2013). High level of poaching thus poses a threat to the existing population (Liberg, et al., 2012). It was a matter of fact excessive poaching until 1960s which drove the species extinct before a Finnish-Russian pair established themselves in Norway around 1980 (Miljødirektoratet, 2016). Since then, the population has been restricted through annual legal hunting quotas to prevent the population from exceeding the national target (Rovviltportalen, 2016). The national target is set to 4-6 wolf litters per year (Rovviltportalen, 2016).

### **Assessment/Analysis of evidence**

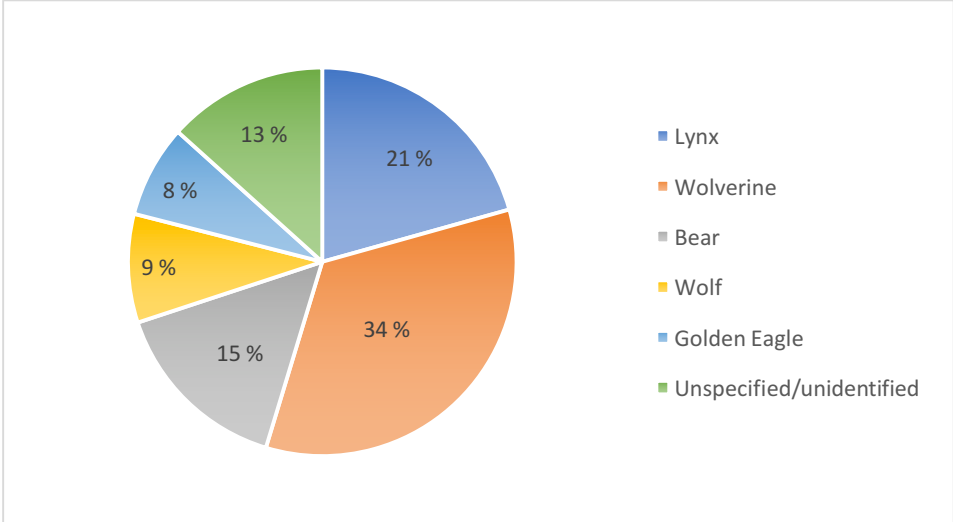
In 1979 Norway signed Council of Europe's Conservation of European Wildlife and Natural Habitats (hereafter Berne Convention), which entered force seven years later (Council of Europe, 2017). The Berne Convention is an international convention and agreement which focuses on the conservation of wild flora and fauna species and their habitats with a part of the convention dedicated to conservation of endangered and vulnerable species (Council of Europe, 1979). In Appendix II of the Berne convention, the wolf is listed as "strictly protected fauna species" (Council of Europe, 1979, p. 3). This means that Norway is under obligation to prohibit any killings of wolves. However, exceptions are allowed if the conditions, stipulated in Article 9, are met (Council of Europe, 1979, p. 4). That means, culling of wolves is authorised when: "there is no other satisfactory solutions"; the culling "will not be

detrimental to the survival of the population concerned”; and “to prevent damage to livestock” and/or “in the interest of public safety” (Council of Europe, 1979, p. 4)

From evidence provided above, it has come forward that culling the already small wolf population can in fact have a detrimental effect on the population. With a strikingly low population, genetic variation plays a vital role in the survival of the species, however if the government decides to allow legal licensed hunting to take out 15 wolves, the chances for survival will be significantly lowered. Following that, surely the government does not want to harm an endangered species, but does so for the sake of public safety. However, culling a significant portion of the existing population which is already functionally isolated, further lowers the genetic variation. As genetic diversity can lower an individual’s immune system for susceptible diseases, a reduction of the gene pool of the wolf in Norway can increase the chances for it to catch viruses such as rabies and the parvovirus (Artsdatabanken, 2015). In cases where wolves are sick, the government must kill the infected individuals. As wolves usually live in packs, this can easily result in a complete extinction of the species within the Norwegian boarder. However, chances for these emergency cases will be much lower if the government were to avoid culling wolves in the first place. Along with high levels of illegal hunting, the culling will in fact affect the survival of the population concerned. Thus, the exception enumerated in Article 9 in the Berne Convention, can certainly not be justified.

Another exception enlisted in Article 9, stated that the government can authorise killing to prevent damage on livestock. However, looking at national statistics from 2016, it shows that the belief that wolves are very dangerous to free-grazing animals is skewed and exaggerated. Out of the 17,635 sheep reported as killed by predators in 2016, only 9% are killed by wolves, as seen in figure 1. Comparing the wolves’ damage on livestock with other predators such as the wolverine which contributed to 34% of the total damage, wolves do not pose a serious damage to livestock (Miljødirektoratet, 2016).

Figure 1: Distribution of damage caused to sheep by different predator species in Norway



Source: (Miljødirektoratet, Sauerstatning, 2016)

The treaty states that exceptions can be made when there are no other solutions. However, satisfactory solutions are available but due to limited research and understanding of wolf behaviour adequate mitigation and management solutions have not been implemented.



## Conclusion, recommendations and outlook

It has been shown that Norway's present wolf policy contradicts the obligation stated in the Bern Convention. To prevent damage to livestock and avoid culling wolves, there must be institutional changes. Firstly, the government needs to promote change in farmer behaviour by tightening compensation policies and reduce compensation paid to farmers. National statistics shows that the Norwegian government is already reducing the compensation money paid to farmers. In 2014 the government compensated in total 64 million NOK (Miljødirektoratet, 2016). In 2016 the compensation was lowered to 44 million NOK (Miljødirektoratet, 2016). It is here suggested a further cut on compensation money. Additionally, when an animal is killed by a wolf (or another predator), there should be conducted a thorough inspection to confirm whether the farmer has fully implemented the national framework for prevention and conflict mitigation designed to combat predation on livestock (Norsk Sau og Geit, 2014). If the farmer has not done so, the farmer would lose his/her right to get compensation or be less eligible to get a compensation. By proposing stricter compensation policies along with cutback on compensation money, it sends a signal to farmers to be more careful with their livestock. Thus, it can be anticipated a change in farmer behaviour by more actively using preventative measures such as setting up more fences and restrict their free-grazing area etc.

Secondly, following that, the nationally proposed framework for prevention and conflict mitigation should incorporate a livestock-guarding dogs programme funded by the government. With the cutbacks on compensation money, it is here suggested that this money, along with other government funding, should start a programme to train livestock-guarding dogs and offer them at a lowered subsidised price to farmers in regions with more predators to protect sheep and other livestock. It has been shown in cases in North America and Europe that non-lethal predator control methods are more effective than lethal (Treves, Krofel, & McManus, Predator control should not be a shot in the dark, 2016). Amongst the effective non-lethal methods was livestock-guarding dogs. It is sensible, with Norway's husbandry tradition in which sheep are let to graze freely on a large open pastureland for extended periods, that a livestock-guarding dog which will be living with the sheep can prevent predators. Livestock-guarding dogs have been used around the world for centuries, and has been found to be an efficient way to deter predators when used together with other predator control measures (Andelt, 1992; Coppinger, Coppinger, Langeloh, Gettler, & Lorenz, 1988). According to Treves et al. the use of livestock-guarding dogs is a more efficient way to protect livestock than using lethal-methods (Treves, Krofel, & McManus, Predator control should not be a shot in the dark, 2016).

The Scandinavian wolf is a species with large public support. However, as a top predator in the Scandinavian ecosystem, they are also highly controversial and are thus often forced into unfavourable conditions which threatens their population development and their diversity. The new policy set by the Norwegian government threatens the existence and survival of the Scandinavian wolf as well as violating the rules set by the Bern Convention. Wolves and humans can in fact co-exist - what we need is better governance, cooperation between farmers and the government, and better understanding of the wolf's behaviour.

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