

Wolf Print

The UK Wolf Conservation Trust

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GUARDIANS

Livestock Guardian Dog/Wolf issues in the Alps
By Cat Urbigkit, Big Piney, Wyoming.

Reprinted from *The Shepherd*, June 2014

WOLF DAMAGE to livestock herds in the southern French Alps continues to be a chronic problem, with more than 2,400 head of livestock killed by wolves in 2013. Researchers have indicated that the region is facing the limit on the efficacy of the use of Livestock Guardian Dogs (LGDs) in that region.

Researchers
Preliminary results of the most recent detailed research project were published in the Spring 2014 *Carnivore Damage Prevention News*. The paper, "The CanOvis Project: Studying Internal and External Factors that May Influence Livestock Guardian Dogs' Efficiency Against Wolf Predation," was written by Jean-Marc Landry, Gerard Millischer, Jean-Luc Borelli, and Gus Lyon of the Institute for the Promotion and Research on Guarding Animals in Switzerland, and Parc National du Mercantour of France.

Methods
Researchers were equipped with a long-range infrared binocular with

recording capabilities. They were able to record night-time interactions between wolves and LGDs in the Maritime Alps. Research involved three flocks of sheep, two of which had high wolf pressure, including one grazing in an area where no wolf shooting permits are issued – not even to livestock producers experiencing wolf attacks on their herds. Flock sizes ranged from 1,750 to 2,500 sheep. One area had two flocks at the start of the grazing season, but these were combined at the end of the summer due to frequent wolf predation on one herd. All three flocks were protected by LGDs, mainly by Great Pyrenees dogs, or Great Pyrenees/Maremma crossbreeds. One flock had 11 LGDs, while the other two herds had four LGDs each. The LGDs were fitted with GPS collars each evening, and their movements were tracked until sunrise.

How did the LGDs react?

LGD reactions ranged from no reaction, to barking, social or close contacts (33% of the events), and chasing. Using the infrared binoculars, researchers were able to document wolves passing by the flock, feeding on freshly killed sheep, and attempting to attack sheep – despite the presence of LGDs. The researchers noted: "Wolves were apparently unafraid of LGDs. Although wolves were chased by LGDs or had antagonistic encounters, these experiences did not prevent them from returning the same or following nights. Moreover, we recorded several occurrences in which a single LGD faced a wolf and exaggerated its behaviors instead of attacking, allowing enough time for the wolf to escape. Thus, the LGDs observed (either naïve or experienced with wolf encounters) seemed to be very

Left and top right: Livestock guarding dogs surrounded by sheep

cautious around wolves.”

The researchers suggest that LGDs should be considered a primary repellent by disrupting a predator’s behavior, but they do not permanently modify that behavior. Wolves become habituated to the presence of LGDs, according to the researchers. They found that both LGDs and wolves seem to evaluate the risk of escalating confrontation.



Aggression

Great Pyrenees LGDs are often selected for use in areas with a high degree of tourism, because they are known to be less aggressive to humans and other dogs. In fact, they are now bred and promoted for their docility. But LGDs that are expected to be effective guardians in wolf territory must have a higher level of aggression to predators. They must have a willingness to confront and fight the predator, as certain LGD breeds are known to do. Researchers pointed to the Karakachan from Bulgaria as a breed known its aggression to intruders.

Stepping away from the research paper for a moment, I would note that our family started with Great Pyrenees LGDs but found they were not aggressive enough for the predator challenges they faced. Thus we moved to Akbash, which have a higher level of aggression to predators while not posing a threat to humans; and to Central Asian Shepherds, which have a high level of canine-aggression. We have found them to be very effective in wolf-inhabited areas of western Wyoming.

Barking

The researchers found that LGD barks do not modify wolves’ ongoing behaviors, but these vocalizations do seem to transmit information. “Because barking is easy to pinpoint, they might give valuable information to the wolves about the LGDs’ location, the number of individuals, their distance and maybe

even temperament. Nevertheless, LGDs’ barks can attract other LGDs, even if they are not able to observe the scene.”

Marking

The LGDs in the study were often seen leaving the flock in the early mornings to defecate and urinate before returning. Some LGDs and wolves defecated on the same spot, so these “scent markings” did not serve to deter wolf presence.

Age and courtship

Just as wolves become more sedentary and their predatory performance declines with age, the same appears to be true with LGDs, especially as it pertains to a weakening physical condition that comes with age. Thus, the age structure of the LGD pack is a key factor in protecting skills.

The researchers also noted that female LGDs in heat poses a separate problem that needs managed by the herder or flock owner. “The energy to protect the flock is wasted on courting females and fighting males,” the researchers noted. “In our case, a strange male LGD managed to reach a female in heat in the middle of the flock despite the presence of three males, probably because they were wounded during a fight at the beginning of the evening.”

Young Wolves

Particular wolves were seen staying near the flocks, attempting (and failing) to attack, and interacting with LGDs. Researchers believe these were young wolves learning to hunt and testing the LGDs. “Consequently, if these first

encounters are not associated with negative consequences, we hypothesize they will learn that LGDs and shepherds are not a danger and will perceive sheep as an available resource. This knowledge may then be passed to the next generation through associative learning. Thus, more aggressive LGDs may be necessary to teach young wolves that encounters with LGDs have severe consequences.”

Shepherds aren’t a threat either

The researchers found that shepherds aren’t viewed as much of a threat to the wolves either. Since their only option is yelling and throwing rocks, the effect on wolves is negligible. The researchers found that the wolf flight distance when confronted by the shepherds was sometimes as short as 100 feet.

Recent wolf attacks on sheep herds are happening more often in daylight (52% of all attacks) and a shepherd reported being challenged by a wolf while trying to retrieve a wounded lamb.

The future

The CanOvis project research project will continue, with researchers continuing to observe how LGDs react to wolves and how wolves counter-respond. To read the full paper, download the PDF here: <http://tiny.cc/canovis>.

Footnote:

Cat Urbigit is the author of the book, Yellowstone Wolves: A Chronicle of the Animal, the People, and the Politics (2008, McDonald & Woodward Publishing Company)

Julia Bohanna recently talked to Jean-Marc Landry, a biologist studying the use and effectiveness of Livestock Guardian Dogs in the southern French Alps (Alpes Maritimes department):

Jean-Marc, what is your background and how did the CanOvis Project begin?

I am a biologist specialising in ethology. I worked previously at Swiss carnivore research group KORA as a Livestock Guardian Dog (LGD) expert. For ten years, I have worked independently, utilising my experience with wolf and sheep. My research project focuses mainly on how LGDs interact with their environment – namely hikers, predators and wildlife. This project began based on observations that despite sheep flocks being protected by LGDs, wolf attacks were still happening. Therefore, we wanted to understand what was going wrong. It is often stipulated that LGDs should be “protective” in theory – but what does that mean in practice? For example:

- How do LGDs react in front of wolves?
- How do wolves respond to LGDs’ protective behaviours?

Understanding nocturnal encounters between dogs and wolves was the first step towards improving the efficiency of the LGDs.

What is a shepherd’s relationship to his dog(s)?

It is different in each individual case. Some own their flock, breed their dogs and therefore know them. But usually, sheep owners hire a shepherd to take on both flock and dogs. Some hired shepherds have a good relationship with their animals and can easily deal with LGDs. However, some do not. There are many different kinds of shepherd-dog interactions and relationships. Not all shepherds like their dogs and the animals may present



What are the main problems you face in your work?

We lack funding and material (GPS, material to record LGDs’ vocalisations, etc.) We also lack sleep during the field sessions! Most of us must work full-time as well, which is time-consuming. We cannot dedicate all our time to the project (for example, to analyse the footage).

challenges and constraints: they need feeding or be problematic with hikers. The shepherd may lack understanding and knowledge about that particular breed of dog. Ultimately, we have lost the traditional method of protecting sheep with LGDs and we need time to learn...

How have local people reacted?

There is a lot of pressure from farmer-orientated associations to eradicate wolves. They are unhappy with a project that tries to improve LGDs’ efficiency and increase the chance for cohabitation. Sheep owners and shepherds with whom we are working are in favour of the project. More people (even sheep-farmer associations) are interested in the results of our project, which is encouraging.

You have studied stress in sheep but the study into stress on the actual LGD had to be stopped. Why is this?

I am working on a repellent collar for sheep, based on acute stress. It will directly measure stress through the heart rate variability (HRV). We hypothesised that HRV will react differently when a sheep is attacked by a wolf in comparison to other type of stress (e.g. seeing a dog, running, herded by a herding dogs, etc.) This year we have studied sheep displacement on alpine pasture and how wolf attack sheep. The project needs more time due to a need for solid scientific validation but also because of a lack of money.

What is your ultimate goal?

To improve flock protection and to sustain farmer activities in wolf territories. We also wish to share our experiences.

Do you really believe that education and prevention will completely avoid the need for culls?

Unfortunately not. Culling is a tool to mitigate wolf attacks on cattle. I believe that our project will help to decrease damage perpetrated by wolves and also the amount of compensation claimed, increasing the chance for cohabitation. Prevention measures are the only way to protect flocks in a long term. Culling may help in a short term but also, by deconstructing the pack, it may also increase damage by wolves.

How did the UK Wolf Conservation Trust become involved?

Two members contacted me directly after my talk at the Slovenia wolf conference in 2013. Six months later, I contacted the UKWCT to ask for help.

How can people help the project?

At present, many avenues are blocked in France. It’s difficult to obtain funding for any research on wolves and LGD. I lead a four person team of volunteers. We spend a lot of time in the field, working hard. If we could acquire some more funds, it would help enormously.

The report can be read in PDF format in full here: <http://tinyurl.com/pkqd7zd>