LGDs

From Tradition to Modernity

# LGD Meeting

## How to assess, improve and innovate

GRUPO LOBO

**Castelo Branco**

**20-21 October 2015**

# Welcome

We are pleased to welcome you to the **LGD Meeting**.

The use of Livestock Guarding Dogs (LGDs), an ancient and traditional way of protecting livestock from predators, is gaining relevance in the scope of large carnivore conservation efforts since these top predators started to expand their range a few decades ago.

As a result new challenges are emerging regarding the use of LGDs which are important to deal with if we want to expand and increase the success of this damage prevention tool.

With your collaboration we aim to promote the sharing of experiences, contribute to the definition of the current state of knowledge on the use of LGDs and help point out new lines for future research and collaborations.

This meeting is organized by Grupo Lobo in the scope of the LIFE Project **MedWolf – Best practice actions for wolf conservation in Mediterranean-type areas** and in collaboration with Istituto di Ecologia Applicata, AGRIDEA and IPRA - Institut pour la Promotion et la Recherche sur les Animaux de protection.

We wish you all a pleasant stay and fruitful discussion.

**Francisco Petrucci-Fonseca**

**Silvia Ribeiro**

*Grupo Lobo, Portugal*

**Valeria Salvatori**

*Istituto di Ecologia Applicata, Italy*

# The MedWolf

The project's goal is to promote the stable presence of wolf in rural areas in Western Mediterranean Europe, where cultural habits of coexistence have been lost, through reduction of conflicts with human activities. MedWolf started in September 2012 and has duration of 5 years. It joins 12 Italian and Portuguese agricultural and environmental associations, state institutions and research centres, in a unique collaboration. The international coordination is made by the Istituto de Ecologia Applicata (Italy), and Grupo Lobo is responsible for coordinating the Portuguese partners.

The two areas of project intervention are in Italy and Portugal and include several Natura 2000 sites and protected areas. **In Italy it will take place in the territory of Grosseto Province,** in the regional park of Maremma and in the park of Monte Amiata, where wolf presence has been confirmed by previous studies. **In Portugal intervention areas are the districts of Guarda and Castelo Branco**, including 7 municipalities along the border with Spain. The average population density in the affected areas is low and economy is based on agriculture and livestock breeding..

**The wolf**, *Canis lupus,* is defined as a "vulnerable species" in the Red List of the International Union for Conservation of Nature (IUCN), which lists all endangered species. Protected by the Habitats Directive 92/43 EU Annex IV it is integrated in the "Animal and plant species of Community interest in need of strict protection" document. In Italy, the species is protected under the 11 February 1992, n. 157 Law, Article 2. In Portugal it is strictly protected by specific legislation, the Wolf Law (Law nr. 90/88).

In Portugal, wolf distribution has remained stable since the first census in 1997 with the identification of two main groups: the largest nucleus is located North of the Douro river, the smaller one, located south of that river, is more fragmented being isolated from the rest of Iberian wolf population. The area of intervention will focus on the wolf nucleus south of River Douro, and, more precisely, the eastern range along the Spanish border, where wolf presence is considered more unstable. Despite being considered a conservation priority this area has not received adequate attention. It is a fragmented group, whose survival and expansion has been strongly affected by habitat destruction and presence of physical and social barriers. The intervention area is crucial for the survival of wolves in the south of Douro River and its expansion to the south and east, promoting in this way its future connection with the Spanish wolf population.

Studies lead us to estimate that the current wolf population in Portugal consists of 300 animals, occurring only in the north and centre of the country – corresponding to a mere 20% of its original distribution. In parallel, although there is no official estimate of the Italian wolf population, a rough estimate of about 900 animals is reported, occurring in all national territory. The expansion of wolf is also limited by illegal activities that prevent the establishment of reproductive packs in newly colonized areas.

The main actions to be implemented include:

- Development of reliable wolf surveys and characterization of the conditions promoting conflicts due to the wolf presence (ex-ante surveys of wolf presence and damages on livestock);

- Actions aimed at training the local actors involved in wolf management and conservation dealing with: monitoring of wolf population, assessment of damages and trust-building with the livestock owners and hunters (training on detection of wolf presence and illegal activities; training on damage assessment);

- Testing the correct implementation of effective damage prevention measures as electric fences, pemanent metal fences, quality and well-trained livestock guarding dogs, and the management of livestock in order to reduce wolf predation risk;

- Exchange of experiences with similar projects and experts in the different aspects of wolf conservation;

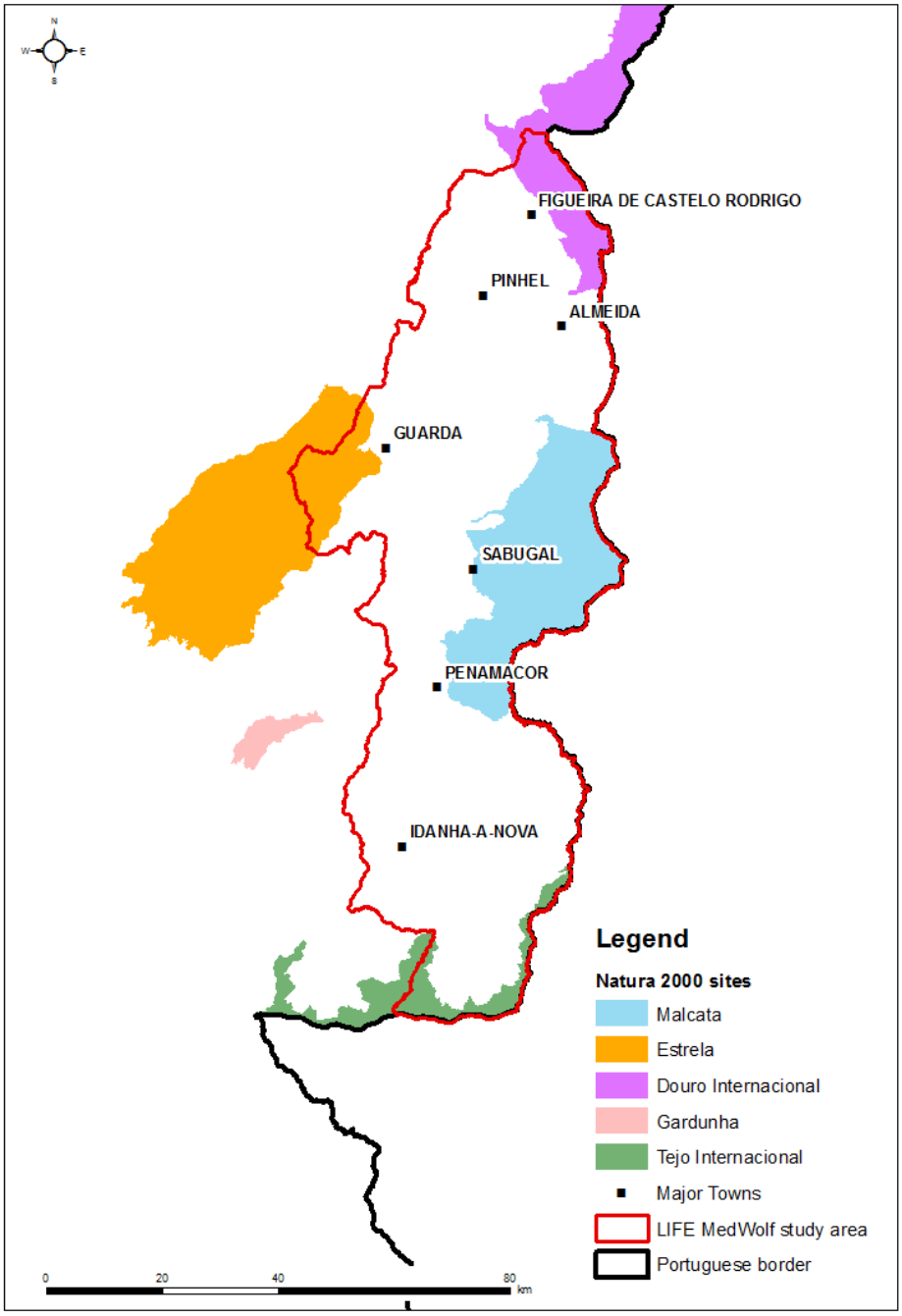
- Creation of national and international groups on damage prevention and wolf studying methods;

- Assessment of the ecologically best wolf areas using GIS techniques;

- Assessment of public opinion focusing on social conflicts that may represent barriers to wolf expansion;

- Awareness campaigns for the general public and livestock owners on the ways of coexistence between the wolf and human activities;

- Increase of awareness and technical knowledge at the management level through thematic meetings and workshops (workshops for management at population level, symposium on wildlife damage prevention).




Portuguese study area.

# MedWolf

## Best practice actions for wolf conservation in Mediterranean-type areas

**LIFE11 NAT/IT/069**

### National Partners

Grupo Lobo *(National Coordinator)*

Faculdade de Ciências da Universidade de Lisboa

Escola Superior Agrária do Instituto Politécnico de Castelo Branco

Instituto Nacional de Investigação Agrária e Veterinária

ALDEIA – Acção, Liberdade, Desenvolvimento, Educação, Investigação, Ambiente

Website: www.medwolf.eu

E-mail: lifemedwolf@fc.ul.pt

**Organization and Support**

**Funding**

# Programme

## 20th October 2015

14h00 – **Introduction to the MedWolf**

*Valeria Salvatori*

Introduction to the Meeting

*Silvia Ribeiro*

**Invited Talks**

14h30 - How to assess the efficiency of LGDs: update on research in the United States

*Julie Young*

14h50 - Livestock guardian dogs in Australia

*Linda van Bommel*

15h10 - Towards a better understanding of livestock guardian dogs: a test to evaluate the quality of LGDs

*Ueli Pfister*

15h30 - Conceptual framework for evaluating LGDs behaviour

*Jean-Marc Landry*

16h00 – **Coffee Break**

**Topic A - How to assess the efficiency of LGDs?**

16h15 – **Introduction and Discussion**

*Valeria Salvatori (moderator)*

18h30 – **End**

## 21th October 2015

**Topic B - How to improve the efficiency of LGDs?**

09h00 – **Introduction and Discussion**

*Silvia Ribeiro (moderator)*

12h00 – **Lunch**

**Topic C – Are there limits to the use LGDs?**

14h00 – **Introduction and Discussion**

*Daniel Mettler (moderator)*

16h45 – **Coffee Break**

17h00 – **Conclusions**

18h30 – **End**

# Participants

| NAME | ENTITY | COUNTRY |
|---|---|---|
| Daniel Mettler | AGRIDEA Swiss Association for the Development of Agriculture and Rural Areas | SWITZERLAND |
| Dario Petrucci | Province of Grosseto | ITALY |
| Elena Tsingarska | SEMPERVIVA, NGO | BULGARIA |
| Jasna Jeremic | State Institute for Nature Protection | CROATIA |
| Jean-Marc Landry | IPRA Institut pour la Promotion et la Recherche sur les Animaux de protection | FRANCE |
| Jenny Dornig | AGRIDEA Swiss Association for the Development of Agriculture and Rural Areas | SWITZERLAND |
| Julie Young | USDA-APHIS-WS | USA |
| Linda van Bommel | University of Tasmania | AUSTRALIA |
| Luisa Vielmi | Coldiretti | ITALY |
| Margherita Zingaro | University of Rome | ITALY |
| Robin Rigg | SLOVAK WILDLIFE SOCITEY | SLOVAKIA |
| Sider Sedefchev | SEMPERVIVA, NGO | BULGARIA |
| Silvia Ribeiro | Grupo Lobo, NGO | PORTUGAL |
| Simone Ricci | Istituto di Ecologia Applicata | ITALY |
| Ueli Pfister | Swiss LGD Association | SWITZERLAND |
| Valeria Salvatori | Istituto di Ecologia Applicata | ITALY |
| Vicente Palacios | ARENA | SPAIN |

# Large carnivore study and conservation in Bulgaria

**Elena Tsingarska**

*MSc Biologist*

Since 1992 – to date, active member of a nature conservation NGO called BALKANI Wildlife Society. Since 1997 member of the Managing Board of BALKANI.

Since 1993 involved in wolf conservation in Bulgaria. In 1995 initiates a Wolf Study and Conservation Program , which has a few main priorities: 1. Filed studies of the species to clarify its population status in the country and collect data on its biology and ecology; 2. Surveys of relations between wolves and humans, finding ways to minimize the existing conflict between them; 3. Educating wide public about wolves; 4. Improving wolf legal status in this country.

In 1998, in the fames of this Program, initiates cooperation between BALKANI and SEMPERVIVA Society, to apply traditional livestock guarding methods and prevention of damages from predators. Develops and conducts preliminary surveys among farmers on the methods used to protect livestock from predators, on the problems farmers have with wolves and bears (frequency and numbers of attacks, animals damaged, etc.). On the base of these surveys are selected farmers, which to be provided with Karakachan dogs. Regular monitoring of the development of the provided dogs, the expression of their working abilities, the quality of their work, as well as dynamics in the frequency of predator attacks on flocks provided with Karakachan dogs. In this relation maintains regular contacts with farmers.

Since 1997 intensive work on large carnivore studies applying different methods. Collecting data mainly on wolf biology and ecology in this country.

2011 – 2013 participating in a project of the Ministry of Environment and Waters: "Mapping of Habitats and Determine the Conservation Status of Species in all NATURA 2000 sites". A key expert developing methodology of work and leading the wolf team.

2013 – 2014 Developing and applying methodologies for regular monitoring of wolf and golden jackal population status in Bulgaria in the frames of a project "Field studies of the distribution of species / assessment of the status of species and habitats throughout the country" with assignor the Executive Agency for Environment.

In 2008 initiates development of a Wolf Management Plan for Bulgaria involving all interested parties. The document is completed and ready to be submitted to the Ministry of Environment. Thanks to this document species legal status in this country is going to be improved, but also the improvement of the status of working LG dogs is prioritized. As a result of the Wolf Management Plan adoption and applying, LG dogs are going to be officially recognized as servise dogs and some outdated texts in the National laws are going to be removed. Those are texts, which oblige shepherds to hang a stick on dogs' chests, which to hinder their movements and allow hunters to eradicate LG dogs, which are not "equipped" with such a stick.

# Report on LGD donation programme for period 2003–2015 in the frame of the Wolf Management Plan for Croatia

**Jasna Jeremić, DVM**

*Croatian Agency for the Environment and Nature, Radnička cesta 80/VII, 10000 Zagreb, Croatia.*
Web site: www.velikezvijeri.hr, www.dzzp.hr

In Croatia two government bodies are responsible for large carnivore conservation and management. The Ministry of Environment and Nature Protection – Directorate for Protection of Nature is in charge of the wolf and the lynx and the Ministry of Agriculture – Directorate for Hunting is in charge of the bear. Croatian Agency for the Environment and Nature (former State Institute for Nature Protection – SINP) is an institution centrally responsible for specialized nature protection activities, and among other is in charge of monitoring wolf and lynx populations in collaboration primary with the Faculty of Veterinary Medicine of the University of Zagreb and other experts or Institutions.

In 1997 the former State Directorate for the Protection of Nature and Environment started the first donation program of guarding dogs – Tornjak, indigenous Croatian breed of large guarding dogs (LGD), traditionally used for guarding livestock against large predator attacks. By the end of 2002, a total of 120 puppies have been donated, most of them in the areas where the biggest damages to livestock were recorded. Due to insufficient funding in that period, it was impossible to systematically monitor the condition of the donated dogs, so monitoring relied on the information supplied by the experts, agricultural advisers, phone contacts and occasional site visits. Unfortunately large number of livestock breeders failed to follow the instructions of the donations coordinator. So dogs were often improperly fed or kept on a chain too often, or haven't made social connection with the herd due to incorrect training and treatment as pets.

Croatia started more systematically work on wolf conservation with the 2002-2005 LIFE III CroWolf Project „Conservation and Management of Wolves in Croatia" implemented by former State Institute for Nature Protection. One of the main outputs of the project was the first Wolf Management Plan for Croatia. Beside the Wolf Management Plan development, the donation programme of the LGD – Tornjak breed was widely implemented. Based on the lessons learned in previous period/donation, the LIFE CroWolf project envisaged a systematic donation scheme with public awareness campaign and education of the current and future beneficiaries and constant monitoring of the livestock breeders.

Donation programme started in July 2003, by printing leaflets about basic information on this indigenous LGD breed with requirements and criteria for donation connected with widespread educational and information campaign/activities. Tornjak puppies could have been donated only to the livestock breeders from regions in which there was a possibility of wolves attacking livestock and which are affected by wolves, the herds of which regularly graze in nature, and are not let into pastures without supervision, whose herds number at least 50 head, and who did not and would not have any poisonous substances on pasture-land in a form that would be dangerous for dogs. The leaflet has been distributed through two regional offices to the livestock breeders from the territories of Gorski Kotar, Lika and Dalmatia region (the areas of LC distribution) companied with public awareness campaigns through local radio and TV stations.

In the beginning, near a hundred of livestock breeders have applied, but only those who satisfied the prescribed criteria and committed to adequate dog management were selected, so as to obtain the best possible results in livestock protection from wolf attacks. We held lectures to the selected livestock breeders with the instructions on raising, keeping and feeding of dogs where they got also written instructions as well in the form of brochure. All the purchased puppies were regularly

registered in the Croatian Kennel Club, with genealogies. Upon receiving the dogs, each livestock breeder was obliged to sign a contract whereby assuming the right of using guarding dog, but also certain obligations in order to ensure adequate keeping and using the dogs for the protection of livestock. Regional coordinators inspected the condition of the donated dogs (their keeping and using) through monthly visits. Every three months additional control visits were done where keeping, behaviour and health of LGD were checked. Also, and a good cooperation in health treatment and inspection of dogs has been achieved with local veterinary stations.

By the end of 2005 and the LIFE III CroWolf project, the 96 puppies of the Tornjak LGD breed were donated. Loss of the 25% donated dogs was primarily due to poisoning, traffic, snake's bite and disease, some of them were lost (disappeared or is suspected to have been stolen). The initial doubts of livestock breeders about the effects of dogs were dispelled by the fact that after donation no damage or much more less damage per one wolf attack was reported by any of them who had received the donation. Damages on livestock have been reduced in some areas, or completely vanished. As a result, the interest intensified especially in the County of Šibenik-Knin where damages caused to livestock were the greatest.

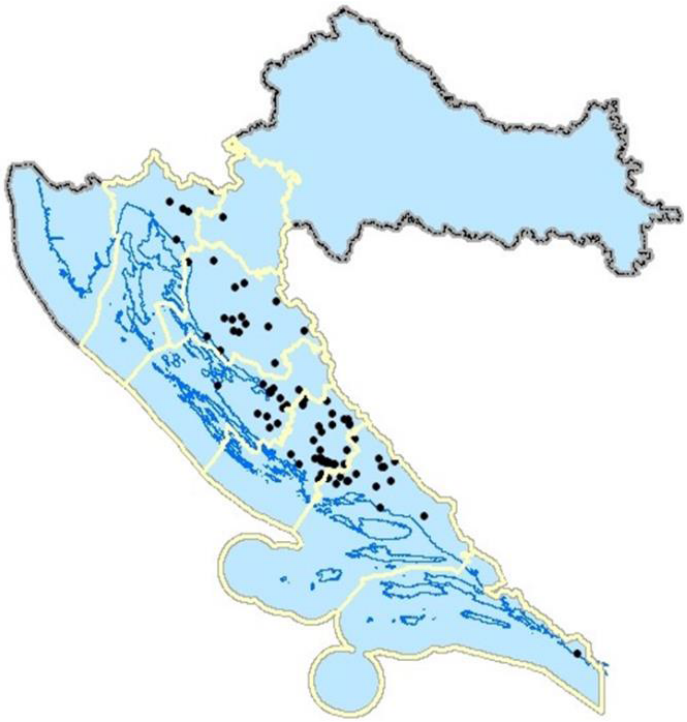
Upon completion of the LIFE III CroWolf project we continued with the donations in the framework of regular operations till the end of 2011. Taking into account previous donations, in the period 2003 – 2012, total of 150 puppies of the Tornjak LGD breed were donated in the areas of the wolf presence (Lika, Gorski kotar and Dalmatia region) and additionally 80 electrical fences. Also, in the frame of the Nature Protection Act, through Committee for Monitoring Large Carnivore Populations as an advisory body of the competent Ministry, rules for livestock guarding were prescribed during 2009 in the form of the Ordinance on damage prevention and compensations of damages done by strictly protected species (OG 158/2009).

Furthermore, the Tornjak LGD breeds, proved to be highly socialized in contact with humans and adequately vicious when guarding. More of them have indirect contact with predators, and successfully repulse attacks, even in few cases wolves were victims with death consequences. It should be noted that livestock breeders started purchasing the dogs on their own initiative after the period of our intensive work on donation program. Some of them during 2009 from the Dalmatia region organize themselves into the „Group of users and breeders of the LGD" (local associations). Together with the Croatian Kennel Club we started the creation of educational program and LGD breeding program development for local associations, but we failed to do it.

In any case, based on the results of several years of guarding dog donation program it can be safely concluded that their reintroduction has brought about significant progress. An important indicator is the fact that those livestock breeders who invested sufficient efforts in guarding dogs were finally satisfied with their efficiency. Thanking to public focus and visible care of the State for livestock protection, the breeders themselves take better care of their herds. Regardless of complaints, they have also benefited from guarding dogs. Many have learned or found out on their own how to use them efficiently. Therefore LGD with herds grazing in the wild are not only a welcome but also a necessary assistance, and were finally a commonly accepted notion in Croatia.

The purpose of the donation program is, however, not the providing of LGD or electric fences by the State or the County to each livestock breeder, but to make livestock breeders understand the importance of guarding the livestock and recognize the possibility to reduce the risk of damage in this way. After all, the analysis of claims for compensations showed that damages were lower in places where the livestock was guarded. Additionally, in the areas of large carnivore distribution the livestock guarding is an obligation prescribed in detail by the national law (above mentioned Ordinance). But unfortunately, in the period from 2011 – 2015, regional offices were closed and donation program with all connected activities were stopped due to lack of financing and human capacity. This weakening of wolf conservation efforts, particularly communication with stakeholders, resulted with negative attitudes towards wolves.

Pictures from LGD donation program in Croatia.

Locations of donated LGDs in Croatia.

Due to the lack of continuous national financial support, we seized the opportunity to finance the protection of cattle from large carnivores, mainly wolf, under the Rural Development Programme for the period 2014-2020. In sub measure "Non-productive investments related to environmental preservation", Ministry of Environmental and Nature Protection and Croatian Agency for Environment and Nature (former SINP) have prepared several operations as support for non-productive investments linked to the achievement of agro-environment-climate objectives. Support will be provided as a grant for investment in restoration of habitats and landscape features, including the construction and restoration of green infrastructure, protection of livestock from large carnivores, and restoration of ponds, ensuring the preservation of various species and endangered habitats.

To achieve the goal to protect, maintain and restore biodiversity and other natural values, one of the eligible costs for this type of support is the procurement of electric fences with related equipment and/or the indigenous LGD (Tornjak breed) where a dog would be used for livestock guarding in the areas of natural distribution of large carnivores. Due to terrain configuration and livestock keeping manner in different parts of Croatia, it is more common for a livestock breeder to have either electric fence or the LGD (e.g. in Dalmatia dogs are more suitable, while in Lika and Gorski kotar electric fences are more used).

After the approval of the Programme by the EC, Croatia is currently preparing a new Ordinance that will regulate all of the conditions a beneficiary has to fully comply with to be eligible for the support, as well as the list of eligible costs and the amount of support for each type of operation. The Ordinance is expected to be adopted in the first quarter of 2016 and the public tender should follow shortly after. Eligible beneficiaries will be agriculture holdings registered in the Register of Agricultural Holdings, public institutions and bodies, as well as local government and civil associations involved in the protection and promotion of cultural values and environmental protection.

# Efficacy of livestock protection dogs in areas with Wolf and Grizzly Bear

**Julie K. Young and Daniel Kinka**

*USDA-WS-NWRC-Predator Research Center, Utah State University, Logan, Utah, USA*

The resurgence of wolves (*Canis lupus*) and the expansion of grizzly bear (*Ursus arctos*) range in the United States have presented new challenges for livestock producers, particularly in the west. Historically, livestock protection dogs (*C. familiaris*; LPDs) have been used to protect domestic sheep (*Ovis aries*) from coyotes (*C. latrans*) in the United States. Breeds of LPD used in the United States were selected decades ago when coyotes were the most significant threat; these breeds have been attacked and killed by wolves and grizzly bears. As grizzly bears and wolves continue to increase in numbers and expand their ranges, more research is necessary to identify the potential effectiveness and limitations of LPDs for use as a deterrent in the United States. In order to meet these new challenges, we are evaluating a variety of European LPDs to determine which breeds are most effective. We have identified additional breeds used in Europe that exhibit strong capabilities for reducing bear and wolf depredation while displaying little aggression towards humans, two very important traits. These breeds will be compared to breeds already commonly used in the United States. This study aims to identify (1) which LPD breed is most effective for reducing depredations by wolves and grizzly bears, (2) LPD behaviors associated with effectiveness, (3) the effect of LPDs on carnivore space-use, and (4) the effect of LPD use on tolerance for large carnivores.

**Methods**

We placed Turkish Kangal, Bulgarian Karakachan, and Portuguese Cão de Gado Transmontano LPDs with sheep bands in five states – Montana, Idaho, Oregon, Washington, and Wyoming. All three breeds of LPD were imported from Europe and placed directly with producers who were given three puppies of a single breed and allowed to train the dogs using older LPDs. Many of the producers already use breeds such as Great Pyrenees and Maremma (aka. "white dogs"), which we also monitor. We are obtaining seasonal survival and depredation data from all sheep within bands used on the study. LPDs are fitted with a GPS collar during the spring-autumn grazing season when sheep are typically on public lands and more likely to encounter wolves and grizzly bears. A random sample of domestic sheep (n=3-10/band) are also fitted with GPS collars to evaluate sheep space-use and proximity of LPDs to sheep. To obtain data on behavior of LPDs we primarily conduct behavioral observations throughout the grazing season. We also simulate predator presence to observe LPD behavioral responses. For these tests we use a dummy wolf and howl call box to simulate wolf presence and record behavioral responses of the LPDs. We also observe behavioral response to a dummy deer and elk bugle call box to determine if the LPDs recognize the dummy wolf as a predator and to act as a control. Carnivore space-use is measured using camera trap data for occupancy modeling. We set camera traps in areas that sheep with LPDs are traveling toward (i.e., pre-treatment), and then maintain cameras when sheep with LPDs are present (i.e., treatment) and after the sheep and LPDs have moved to a new area (i.e., post-treatment). We use the camera data to create co-occurrence models for sheep and grizzly bears, wolves, coyotes, black bears (*U. americanus*), and cougars (*Puma concolor*). Finally, we will evaluate the effect of LPD -use on tolerance for large carnivores via responses to a mail-in questionnaire made available in both English and Spanish.

**Preliminary Results**

We have completed three of four field seasons. We are currently working with 19 producers and 23 sheep bands that include 20 kangals, 12 karakachans, 15 transmontanos, and 12 white dogs. Naïve occupancy estimates from available space-use data confirm the overlap of LPDs and sheep with wolves and bears during the 2014 grazing season. Sheep within study bands have been depredated by wolves, bears, cougars, and coyotes. One LPD has been attacked by an unknown predator, likely wolf, and two have been killed by vehicles. Mixed effect models of GPS collar data indicate no breed differences between Kangal and white dog proximity to sheep ($\chi 2(1)=0.876$, $p=0.35$). Completed questionnaires are being received but the current sample size is too small for analysis. We plan to collect most questionnaires at the completion of field work.

# From Lions in to South Africa to livestock guardian dogs in Australia

**Linda van Bommel**

*University of Tasmania, Australia*

I am currently based in Australia, but I am originally Dutch. When I was still living in the Netherlands, I did my Masters degree through Wageningen University in the Netherlands, studying lions in Cameroon and South Africa. It was in Cameroon that I got interested in predator-livestock conflict, as during certain times of the year the lions would leave the national park, and at these times would often hunt livestock instead of wildlife. This of course created a lot of conflict with local pastoralists. My research at the time only documented this behaviour from the lions; I did not have the funds or time to investigate predator control options that the local people could use, however I did become very interested in non-lethal predator control.

When I went to Australia, I got the opportunity to do a PhD on the use and effectiveness of livestock guardian dogs there, which is what I have been working on for the past couple of years. During this research, my main aim was to determine how livestock guardian dogs work when they are protecting livestock; which behavioural mechanisms they use to keep livestock safe. This was mainly geared towards the Australian situation where livestock guardian dogs often work on very large private properties, mainly protecting livestock from other canine predators (dingoes and wild dogs). I used a range of methods to investigate this, including GPS tracking collars, playback experiments, and movement triggered cameras. I will explain this research and my findings during my presentation.

While I was doing my PHD, an Australian government department also asked me to write a best practice management manual for the use of livestock guardian dogs. The reason for this was that in Australia, the use of guardian dogs for livestock protection is a relatively new method, and a lot of people who were interested in guardian dogs were having trouble finding information on how to train and manage them. People in Australia are most familiar with herding type dogs (kelpies/border collies), and often tried to treat guardian dogs in a similar manner. This led to a lot of problems, very ineffective guardian dogs, and guardian dogs getting a very bad reputation. The manual was aimed at making information about training and management easily available.

My PHD is now finished, but I am about to start a new research project with guardian dogs. In this project I will trial the use of guardian dogs for the protection of re- introduced endangered mammals in Australia. In Australia, introduced foxes and feral cats pose a significant threat to many small mammal species (and birds and reptiles), and have played a major part in the extinction of a range of these species. Guardian dogs are already successfully used to protect a colony of Little penguins from extinction through fox predation in one Australian nature reserve. In my next project I will investigate how well these dogs can protect a re-introduced population of a small endangered marsupial called an eastern-barred bandicoot, and keep them safe from fox and cat predation, hopefully allowing them to live in the wild again.

Livestock guardian dogs (LGDs) have been used for predator control for thousands of years. However, they are relatively new to Australia, and in this project the use of LGDs for stock protection was investigated in Australia.

A telephone survey among 150 users of LGDs was conducted to determine the effectiveness of Australian LGDs for predator control. In addition, to investigate LGD movements and behaviour, GPS collars were placed on Maremma Sheepdogs that were free-ranging over large areas with their livestock. Simulated wild dog incursions were used to test the Maremmas' response to a predator challenge. Wildlife surveys were done to investigate the effect of LGDs on large herbivores.

The results show that LGDs are apparently highly effective in Australia, with 96% of respondents in the survey stating LGDs had eliminated or significantly reduced predation. They were found to be equally effective on large rangeland operations as on small properties, as long as the appropriate number of dogs was used for the property situation. They are also highly cost-effective. Free-ranging LGDs seem to set up territories around their livestock, which is likely a highly effective method of predator control because it creates a buffer zone around livestock from which predators are repelled. Analysis of the data from the wildlife surveys is still ongoing. By economically reducing or eliminating predation, LGDs have great potential in reducing human-wildlife conflict.

# The integration of LGDs under the MedWolf in Italy

**Luisa Vielmi[1], Margherita Zingaro[2], Francesca Orsoni[3] and Carmen Petrulli[4]**

*[1]Coldiretti, [2]PhD Student La Sapienza University Roma, [3]DVM, [4]PhD Student University Bologna*

The use of livestock guarding dogs (LGD) is among the best preventive measures to protect livestock from carnivore depredations. For this reason one of the actions (C2), of Medwolf Life project is all about LGD. This action started in June 2014 and involved the placement of 20 guarding dogs in the custody of 10 sheep farmers and subsequent veterinary cares and dogs' behavioral assessment. The farmers were selected from a list of candidates through direct interviews and a on-site inspections in order to evaluate the husbandry practices quality.

For what concern the veterinary cares, each dog receives in his breeding farm a first deworming and immunization with a high titre vaccine against canine parvovirosis and distemper. After that, the vaccine prophylaxis continues, administrating booster doses in order to immunize the dogs against infectious hepatitis, respiratory disease, parainfluenza and leptospirosis. Moreover during spring-summer seasons the dogs are treated both for flea and tick infestations (by using spot-on permethrin) and preventively against filariasis. A good quality dog food is provided for free for each farmer. Until 7-8 months of life the dogs receive a specific formula for large size breed puppies, then gradually changed with a maintenance formula for large size breed adults. It is advised to divide the daily ration in two meals, in order to not overload the gastrointestinal tract and avoid the onset of gastric dilatation and volvulus (dog bloat). Feeding the dogs with sheep slaughtering discards is strongly discouraged, to prevent infestations with Echinococcus spp. Feeding with leftovers, milk or bread, is also discouraged in order to prevent food allergies or intolerances and to allow the development of an appropriate intestinal bacterial flora. All appropriate preventive measures, including hygiene standards are employed to prevent the spread of contaminations.

The assessment of dogs behavior and attitude to protect livestock, is another objective of C2 action along with the monitoring of both dogs and sheep welfare. Dogs' behavior and attitude are evaluated through direct and indirect observations and farmers interviews. Data collection is carried out every 15 days for the first 6 months after dog pups deliveries, then every month. Each observing session lasts 1 hour. Dogs and sheep welfare is assessed observing the steroid hormones concentration in fur samples collected from all the dogs and at least 5-6 sheep in any farms. Moreover a questionnaire is provided to the farmers in order to quantify how they are satisfied of their dogs as a tool to prevent livestock depredations.

It could be asserted that LGD efficiency results from the interaction of several factors. The effect of some of these variables, such as the association between dogs and flock, is still unknown. For this reason in 2015 was decided to assess the spatial and temporal relationship between LGDs and flock using GPS collars designed for pets. This association will be further relate to some environmental variables and dog's characteristics. Compared to direct observations, GPS devices can collect much more data even over long periods of time. 2 to 4 dogs and 1 sheep for each farm, will be fitted with GPS collars. Overall 30 LGDs will be monitored. Using this approach we aim to quantify the overlap between sheep and dog ranges (day and night); estimate a sheep/dog proximity index for daytime and nighttime; and finally relate the overlap and the proximity index with some variables (husbandry, temporal, dog related). From this new phase of C2 action, we expect to gain interesting insight on the importance of the association between sheep and dogs in evaluating LGD efficiency. Moreover we will assess the usefulness of GPS collars as a tool for aiding in the proper management of LGDs.

By the end of C2 action, scheduled for September 2016, an endorsed protocol for the correct management of guarding dogs will be developed.

# Work on LGDs developed in Slovakia and Georgia

**Robin Rigg**

My experience of livestock guarding dogs has been mainly through: 1. a review of the use of LGDs worldwide (Rigg 2001); 2. a project to reinvigorate the tradition of LGDs in Slovakia (Rigg 2004, Rigg et al. 2011); and 3. as a consultant helping to assess the current use of LGDs in Georgia (Rigg & Sillero 2010); I have also had opportunities since 1997 to observe working dogs in various contexts in several additional countries including Bulgaria, Finland, Greece, Italy, Norway, Portugal, Romania and Turkey.

**Use of LGDs worldwide**

As part of my Masters work in I compiled a detailed review of contemporary practices in the use of livestock guarding dogs throughout the world as of 2001. The report included case studies from Africa, North America, Asia, Australasia, Europe and the Middle East, discussed in relation to predation by canids, felids and ursids on a variety of livestock. In the majority of countries assessed, there was evidence that LGDs helped reduce losses, in many cases quite dramatically. A range of factors appeared to affect the level of success, from animal husbandry methods to the breeding and raising of the dogs.

**Reinvigorating the tradition of LGDs in Slovakia**

The Protection of Livestock and Conservation of Large Carnivores project aimed to encourage sheep farmers in Slovakia to return to the traditional use of stock-bonded LGDs. In 2000–2004 a total of 68 pups were placed at farms and raised according to guidelines developed in N. America. Dogs were assessed using an ethogram-based focal observations protocol as well as shepherds' and livestock owners' reports of predation. Farms with successfully raised LGDs reported 70% fewer losses to bears and wolves than control farms in the same regions.

**Contemporary use of LGDs in Georgia**

As part of the Georgia Carnivore Conservation Project I assisted with the design and implementation of a baseline survey of human-carnivore conflict and mitigation measures in East Georgia. All 69 farms included in the survey used LGDs, with a mean of 8 dogs/farm. Dogs were assessed on the basis of satisfaction ratings as well as shepherds' and livestock owners' reports of predation. There was a tendency for owners of 'pure-bred' dogs to be more satisfied with their performance, even though such dogs were not associated with fewer reported losses. There was some evidence, though not statistically significant, that mixed breed dogs were better at defending cattle while dogs regarded as pure-bred (Georgian or Caucasian shepherd) were possibly slightly more effective with sheep. Higher dog:sheep ratios appeared to limit losses.

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# Experience with livestock guarding dogs and livestock breeding (pastoralism)

**Sider Sedefchev**

*Master of Arts, Chair of BBPS – SEMPERVIVA, Chair of Rare Goat Breed Association, farmer – breeder of rare autochthonic breeds Karakachan dog, Karakachan sheep, Karakachan horse and Kalofer long-hair goat.*

Since 1992 – ongoing: working with the autochthonic breed of livestock guarding dog, the Karakachan dog.

The first several years (1992 – 1997) mainly seeking out the last original specimen of working Karakachan dogs and all the available information about the breed. Intensive work on breeding of karakachan dogs from best working lines, aiming to save from extinction the breed and its authentic type. Co-author of the breed standard, which was worked out in 1997.

In 1997 together with followers establishes a nature protection, non-profit NGO, named Bulgarian Biodiversity Preservation Society /BBPS/- SEMPERVIVA, and becomes its chair.

Since 1998, BBPS Semperviva and BALKANI Wildlife Society (another NGO) join their efforts in the frames of Wolf Study and Conservation Program in Bulgaria and work together on number of activities on saving, use and popularizing Karakachan dogs. The activities to provide mountain farmers with Karakachan puppies, which to become guards of their flocks, have double aim. First is to return these dogs to their natural environment, but also to reduce the existing human-wolf conflict. Thanks to these efforts, in many areas of the country the practice of using LGDs is restored. Development of the provided dogs is closely monitored by regular visits to the farmers observing dogs' work and collecting information from farmers on dogs' development, manifestation of working skills, etc.

Since 2000 sets out to restore the original type of the Karakachan sheep, which is considered extinct by that time. Seeks out the last remnants of this breed and starts urgent, active work for saving it by forming a nucleus flock, which nowadays numbers almost 600 typical Karakachan sheep. Similar work is done to save the Karakachan horse. Actively works on the conservation of another two rare local breeds of goats, Kalofer long-hair goat and Screw horn long-hair goat.

Becomes active farmer. Maintains and breeds nucleus herds of 600 Karakachan sheep, 20 Karakachan horses and 250 Kalofer long-hair goats. All these herds are bred in Pirin Mts., which is one of the highest mountains of the country and is a National park. Wolf and brown bear population densities are high in this mountain. The sheep and goat herds are guarded by Karakachan dogs, which have regular experience with large carnivores.

During all the above mentioned years, monitoring the guarding work of Karakachan dogs in the mountains. Since 2000, breeding and working with such dogs, which guard the sheep and the goat flock in some of the hardest conditions, extremely rugged and overgrown terrain and high densities of wolves and brown bears.

In 2004, in partnership with Prof. Dr. Phil Sponenberg (Virginia) starts the first introduction of Karakachan dogs amongst American farmers.

In 2005 – Is part of a team, which submits documentation to the Ministry of Agriculture and Forests for official recognition of the Karakachan dog breed. Finally, after many years of struggle, in August 2005 the Bulgarian Government officially recognizes the Karakachan dog as autochthonic breed of working farm dog.

# Recovering and promoting the use of livestock guarding dogs in Portugal: results from a long-term program

**Silvia Ribeiro**

*Grupo Lobo (NGO)*

One of the major causes for the man-wolf conflict is the damage this predator causes to livestock. But damages may have different regional significance depending on cultural, social and economic factors. In most of the Portuguese wolf distribution area, livestock production is the main subsistence activity of human rural communities. Although wolf damages are compensated by the Institute for Nature Conservation and Forests (ICNF) animals that disappear or indirect losses from the future production of the animals attacked are not compensated. Also, delays in payments are common and can sometimes take up to a year. All these factors can have a big influence on the rural household economy and consequently on the tolerance towards the wolf. This situation is even more problematic in recent wolf expansion areas, where common prevention measures, like shepherding, night confinement, shed lambing, fencing or dogs are not used. Furthermore, the subsidies from the European Union for traditional livestock production caused other problems, by promoting an increase in the number of young and inexperienced livestock producers and in the number of animals per flock not accompanied by the necessary reinforcement in protection. The best solution is thus to work on damage prevention.

In 1996 Grupo Lobo initiated a Livestock Guarding Dog Program aiming to recover and promote the use of LGDs in centre and north Portugal, as a tool to reduce wolf damages on livestock and the resulting man-wolf conflicts, thus contributing to Iberian Wolf conservation in the country. At the same time the Program is contributing to increase the economic viability of the traditional extensive livestock production, demonstrating that coexistence of this activity with the wolf is possible and viable, spreading knowledge about the native dog breeds and how to raise and care for these working dogs, and raising awareness about their welfare.

Since then, and in collaboration with other entities, more than 470 pups from Portuguese breeds have been integrated into 280 goat and/or sheep flocks or cattle herds in the north and centre of Portugal, mainly within the wolf range.

**Livestock Guarding Dogs**

Livestock guarding dogs were part of the grazing system traditionally used in all Portugal, where four breeds of LGDs were selected: the Cão de Castro Laboreiro, with its origin in the northwest mountains of the country; the Cão da Serra da Estrela, with its origin in the highest mountain in central Portugal, from where it borrowed its name and has two varieties-short and long-hair; the Rafeiro do Alentejo, that comes from the southern plains where wolves once roamed but are now extinct; and the Cão de Gado Transmontano, the larger breed that was recently recognised and exists in the northeast mountains of Portugal.

Despite their importance and effectiveness in reducing damages, the use of LGDs decreased in the last century mainly due to the decline of the traditional grazing activity and the general reduction of wolf populations (that exist only in the north and centre of the country, corresponding to 19% of its original distribution area that comprised the entire country), thus rendering useless those larger and more expensive dogs. This situation has led to the general loss of knowledge regarding LGDs' adequate raising, and their replacement with smaller hunting dogs, thus increasing flocks' vulnerability to predation. It has also put at serious risk the Portuguese breeds of LGDs, by drastically reducing their numbers and consequently promoting inbreeding and crossbreeding.

**Phases of the Program**

The Program is developed in four phases. The first phase consists in the analysis of wolf damages and the selection of priority areas. A subsequent selection of the livestock producers from those areas that have higher damages is made based on an interview. During this interview the existence of adequate conditions for integrating an LGD and the motivation of the livestock producer to participate are assessed. In the second phase the selection of the pups is carried out, based on the quality of the parents (e.g., absence of diseases, typical morphology and good working behaviour). Before receiving the pup, the livestock producer signs a collaboration contract accepting to comply with some basic conditions concerned with the pup's raising, welfare and adequate socialisation. This contract enables the exclusion of livestock producers that are not following the conditions considered necessary for raising a LGD and the transference of his dog to another flock or herd. After weaning, usually around 6-8 weeks of age, the pup is integrated into the selected flock or herd. In this third phase the pup is confined to the corral/stable and kept in strict contact with the animals of its flock during 2-4 weeks before starting to accompany the flock during grazing, or longer (until 6 months) in case of cattle herds. In those first weeks of socialisation with the flock the pup should be kept with the existing lambs, kid goats or calves while the flock is out grazing. However, caution is needed and younger lambs/goats should be promptly isolated in case of excessive play/biting from the pup. These initial weeks are also important for the flock to become familiar with the presence of the new pup in their midst and decrease the fear/aggressiveness towards him. After those initial weeks of socialisation the pup is ready to start accompanying the flock during the grazing period. This initiates the fourth phase during which the monitoring of the pup's physical and behavioural development is conducted. Dogs are visited regularly (at least every 1-2 months) until reaching 12-18 months of age. The pup's behaviour towards the animals in the flock, the shepherd(s) and the other dog(s) from the flock, as well as toward strange animals/persons is registered based on direct observation and inquiries to the shepherd/owner. This regular monitoring also enables the timely correction of undesirable behaviours exhibited by the dog or by the shepherd and the control of the dog's sanitary condition. The Program provides appropriate food for the dogs until they reached adulthood and also all the veterinary care needed. Nevertheless, a high mortality rate was registered (34%) with most dogs dying of poisoning, disease or simply disappearing.

**Dog evaluation**

The efficiency of the adult dogs is evaluated according to three different criteria: damages' reduction, dog's behaviour and owners' satisfaction. A comparison of the average number of damages per flock in the years before and one year after the integration of the dog (i.e., when it reached adulthood) is performed. The results show a general reduction in the number of damages, from 13% to 100%, in 75% of the cases. When analysing the number of damages from each flock in relation to the damages in nearby flocks, there was a reduction from 10 to 40% in 60% of the cases. Nevertheless, the results also show a considerable variability in the annual number of damages, demonstrating that other factors, apart from the dog's presence, like the density of predators or the type and availability of wild and domestic prey, could also be responsible for the observed reduction. Apart from fluctuations in prey density we should also take into consideration that some species have more effective anti-predator behaviour than others. The level of protection in neighbouring flocks can also change rapidly if we consider the death and substitution rates of LGDs. Furthermore, illegal mortality of wolves by poison is not infrequent and can cause the sudden extermination of entire packs thus decreasing predation. The fact that the number of damages could be misleading regarding dog's efficiency is exemplified by some flocks that maintained or slightly reduced the number of damages although they have experienced a significant increase in the number of attacks that were being efficiently deterred by the dogs.

Dog's behaviour has been evaluated according to the model proposed by Coppinger & Coppinger, (1978). The establishment of strong social bonds is considered the basis for the emergence of

adequate attentive, trustworthy and protective behaviours, the essential behaviour components identified for this type of dogs. An attentive dog should follow the flock in its daily movements during grazing thus maintaining its proximity with it. A trustworthy dog should not disrupt the flock activity nor should actively chase, injure or kill livestock. A protective dog should be alert to the flock and to any strange situation and protect it from potential threats. The identification and analysis of these behaviours (either by direct observations or inquiries to the owner/shepherd) has been very useful when evaluating the dogs' efficiency, given that damages' reduction is not always a good index.

Nearly 90% of adult dogs were exhibiting attentive behaviour towards the flock. Nevertheless, some juvenile dogs were identified as not behaving correctly. This situation resulted mainly from inadequate behaviour by the shepherd that was reinforcing its bond with the dog or limiting the contact with livestock. In few cases the shepherds did not change their behaviour and the dogs were either transferred to other flocks or definitely removed. Very few dogs showed untrustworthy behaviour (injuring or killing livestock) and had to be removed. Excessive play behaviour in juvenile dogs can become a real problem and was thus immediately corrected to prevent it from being reinforced. All adult dogs exhibit protective behaviours (alert to the flock activity and movements, barking in strange situations, placing themselves between intruders and the flock, chasing and occasionally fighting intruders) and actively prevent wolf attacks. Shepherds are generally satisfied with their dogs: 95% consider them very effective and most say the dogs were responsible for the observed damages' reduction.

**Acceptance and impact**

Despite the initial suspicion about these dogs, there has been an increasing acceptance. The number of requests for dogs has also been increasing exponentially mainly from shepherds that have heard about their efficiency or have seen them working. An effort is made to associate all interested livestock producers in order to establish contact among them, facilitating the exchange of pups and experiences. The knowledge of participating livestock producers about Portuguese LGD breeds, raising LGDs and recognising good working dogs has improved significantly.

**Limits to success**

Although LGDs can be a very good help they can be powerless in some situations, namely when they are insufficient in numbers or the management of livestock is not adequate. Big flocks with few or no shepherds, livestock that spreads during grazing, pastures with dense vegetation or high predatory impact, all demand a higher number of LGDs. The presence of the shepherd is also very important to correct any undesirable behaviour or situation and thus increase the efficiency of LGDs. Furthermore, raising a LGD requires an extra commitment by an inexperienced shepherd and more than a year is necessary before the dog may be fully effective. Other problems, like aggressiveness to other livestock, dogs or people may occur, but are not very common.

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# Wolf management and damage prevention in Galicia, Spain

**Vicente Palacios**

In the last 15 years, working in a private company that develops studies about wolf ecology and advises authorities regarding wolf management, it was possible to focus on the issues of wolf management and in the development of actions devised to reduce wolf-livestock conflicts in the North of Spain. Particularly, several regional management plans for the wolf were developed and implemented as well as manuals about different livestock damage prevention methods that could be used in Galicia, Asturias and Picos de Europa National Park, including LGDs as one of the most useful methods.

In Picos de Europa we unsuccessfully (farmers did not collaborate) tried to promote the use of mobile electric fences to protect sheep herds. In this National Park managers are not very interested in promoting the use of LGDs due to possible conflicts with tourists. This is a major problem that should be tackled and further actions should be implemented to change this situation.

In summer 2013, we began a multidisciplinary pilot project to study the relationships among livestock, wolves, wolf damages, and damage prevention methods in Pontevedra province, and to test a damage prevention method designed for free-ranging cattle in a collaborating farm previously selected. In this region the main livestock husbandry practice include extensive grazing cattle and upland heathlands are occupied by free-ranging horses feeding on low-quality forage, which form small herds that roam and breed freely and unattended in communal lands all year round. Most of animals killed by collared wolves were foals and calves. The use of LGDs is not widespread in this area to protect free-ranging cattle.

Next year a new project will be developed aiming a studying the efficiency of LGDs.

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# Clôtures de protection contre le loup

## Contexte

L'expansion du loup pourrait à l'avenir accroître le nombre de dommages en dehors des régions d'estivage. Le risque de dégâts sur le petit bétail peut être diminué avec une clôture appropriée. Il est indispensable de respecter quelques principes lors de leur montage et pour leur entretien.

## Exigences pour avoir des clôtures de protection efficaces Installation

- Un électrificateur sur secteur (230 V), sur batteries (12 V) ou solaires.
- Petit pâturage : électrificateur avec une impulsion de 5 Joule.
  Grand pâturage : électrificateur intelligent.
- Installer **suffisamment de tiges de mise à terre** dans un sol humide.
- L'écart entre les poteaux ne doit pas dépasser 8 m.

**Entretien**

- La tension **d'au moins à 3'000 Volt** (si possible 4'000 Volt), également en cas d'humidité.
- **Couper régulièrement l'herbe.**
- **Le contrôle journalier** avec un voltmètre est indispensable. Par la même occasion, il faut faire attention aux portes ouvertes, aux dégâts à la clôture ainsi qu'à d'autres défauts.
- Les fils lâches doivent être retendus et les trous réparés le plus vite possible.
- Il est conseillé de démonter les clôtures dépourvues de courant après la période de pâture. Cela empêche les animaux sauvages de ne plus les respecter.

## Mesures à court terme lors de forte présence de loups (mesures d'urgence)

S'il n'est pas possible d'établer les animaux, la sécurité peut être augmentée par un parc de nuit solide et électrifié. Les petits parcs peuvent être renforcés par des filets électrifiés. De plus, les méthodes d'effarouchement suivantes peuvent augmenter l'effet de protection des clôtures :

- **Lampes clignotantes** de type Foxlight
- **Fladry** – clôture constituée de bandes de tissus, la plupart du temps de couleur rouge
- Appareil de **dissuasion acoustique** avec détecteur de mouvement

Afin d'éviter un effet d'accoutumance chez le loup, les lampes clignotantes et les appareils de dissuasion acoustique doivent être déplacés tous les trois à cinq jours. Pour la même raison, ces systèmes ainsi que les Fladry ne doivent pas être utilisés plus de deux semaines sur le même pâturage.

## Adaptation des systèmes de clôture existants

**Adaptation avec les flexinets**
Rehaussement des flexinets et ajout d'un fil extérieur (à l'aide de poteaux extérieurs avec 1 fil à 1.2 m et un autre à 20 cm du sol). Remplacement des Flexinets  pour les moutons par ceux pour les chèvres

**Adaptation avec un treillis métallique**
Rehaussement à l'aide d'un fil électrifié supplémentaire (1.2 m) et installation d'un fil extérieur à l'aide d'un long isolateur ( à 15 – 20 cm du sol et de la clôture).

**Adaptation avec une clôture en câbles ou en fils**
- Cinq câbles ou fils électrifiés de bonne qualité
- Le fil le plus bas à une hauteur de 15 cm
- Le fil le plus haut à une hauteur de 1.2 m
- Les fils inférieurs sont plus serrés que les fils supérieurs

**Remplacer les systèmes de clôtures précédents par un grand filet de pâturage**
Filet électrifié (1.5 m) à mailles serrées. Attention, poids relativement élevé. Il est donc conseillé d'utiliser ces clôtures sur des petits pâturages facilement accessibles

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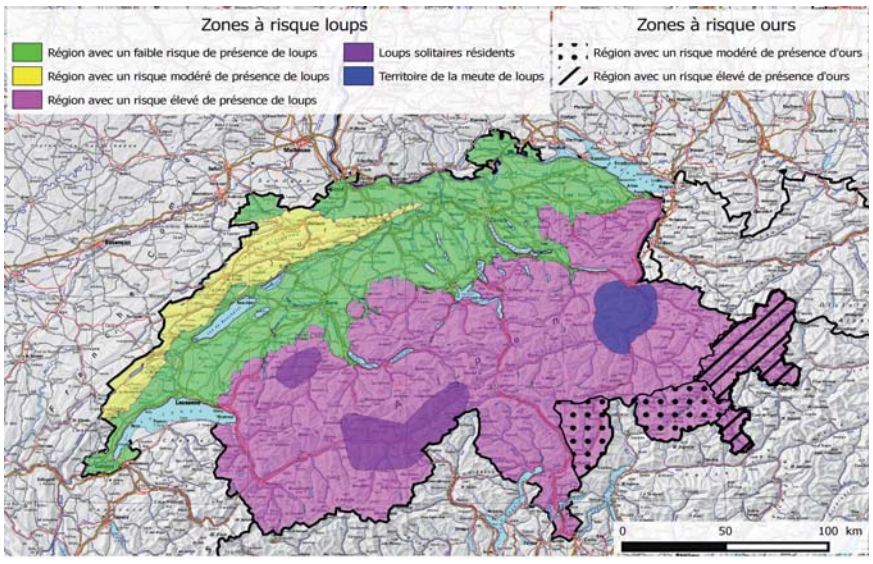
# Protection des bovins contre le loup

## Contexte et évaluation du risque

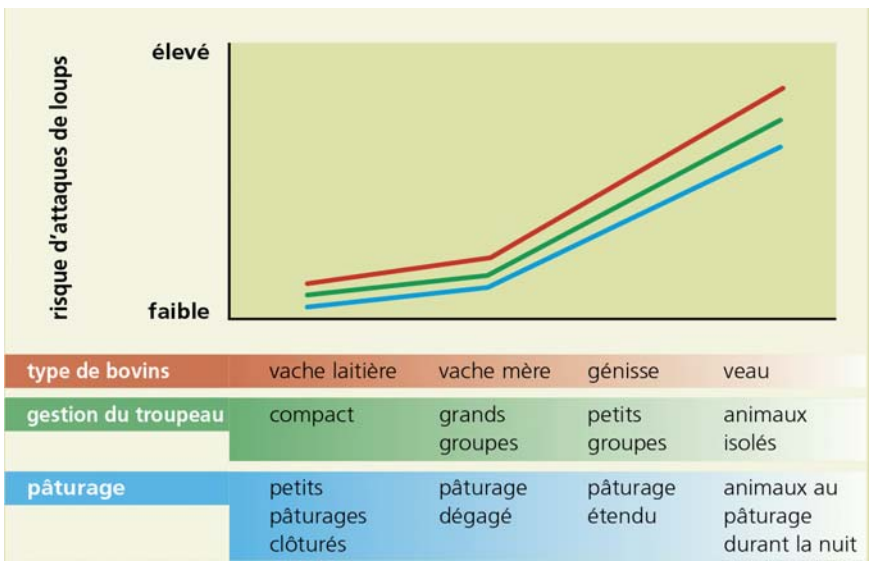
Les expériences dans les Alpes montrent que le loup s'attaque principalement au menu bétail. En comparaison, le risque d'attaque sur du gros bétail (bovins, équins) est largement plus faible. En raison de leur taille, les vaches adultes et en bonne santé ne sont que rarement des proies pour les loups. Les veaux fraîchement nés et encore maladroits peuvent, surtout en l'absence passagère de leur mère, être attaqués par des loups. De rares cas d'attaques sur des génisses sont aussi connus . Une attaque sur un troupeau de bovins contenant de jeunes animaux ne se produit que dans des régions où la pression des loups est élevée car elle est risquée pour les loups. Le risque d'une attaque de loup sur des bovins diffèrent selon la localisation de l'exploitation et/ou de l'estive.




### Aide pour évaluer le risque

Les sources d'informations suivantes peuvent fournir des renseignements spécifiques :

- Régions avec présence permanente de loup www.protectiondestroupeaux.ch et www.kora.ch
- Conseil individuel auprès du service de vulgarisation agricole cantonale
- Contact avec le garde-faune régional




| type de bovins | vache laitière | vache mère | génisse | veau |
|---|---|---|---|---|
| gestion du troupeau | compact | grands groupes | petits groupes | animaux isolés |
| pâturage | petits pâturages clôturés | pâturage dégagé | pâturage étendu | animaux au pâturage durant la nuit |

*Evaluation du risque pour une exploitation située dans le territoire de la meute de loups.*

## Adaptations de l'exploitation comme mesure de protection

**a) Mesures à court terme lors de forte présence de loups**

- Etabler les animaux durant la nuit.
- Montage d'un parc de nuit solide et électrifié.
- Méthodes d'effarouchement: **Lampes clignotantes** (Foxlight), **Fladry,** appareil de **dissuasion acoustique.**

**b) Gestion des pâturages pour diminuer le risque d'attaque**

- Un **troupeau compact.** Le système de pâturage tournant empêche qu'un animal se retrouve seul, à l'écart de son troupeau.
- Pour les vaches mères avec leur veau, il est recommandé de clôturer avec au moins deux fils afin que les veaux ne puissent pas s'éloigner du pâturage.

**c) vêlage contrôlé**

Un jeune veau, dans les premiers jours de sa vie, momentanément laissé seul par sa mère à l'écart du troupeau se trouve dans la situation la plus risquée. Il faut éviter les vêlages sur des pâturages non clôturés dans les régions où la pression des loups est élevée.

Une personne qui ne veut pas renoncer au vêlage sur des pâturages non clôturés devrait alors prendre en considération différentes mesures de sécurité :

- **Optimiser le lieu du vêlage :** Choisir un pâturage dégagé et exposé situé à proximité de la ferme ou du chalet. Eviter les pâturages situés près d'une forêt, fortement embroussaillés ou avec une visibilité réduite.
- **Présence augmentée du berger :** Les animaux en fin de gestation doivent être particulièrement bien observés et détenus, si besoin, à proximité de la ferme/du chalet.

**d) Chiens de protection des troupeaux (CPT)**

Les CPT représentent une protection efficace contre les attaques de loups. L'intégration de chiens dans un troupeau de bovins est cependant plus compliquée et demande plus de temps que pour le menu bétail. L'utilisation de chiens de protection des troupeaux avec des bovins ne devrait être envisagée que lors d'une forte pression de grands prédateurs, si aucune autre mesure de protection ne peut être mise en place.

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# La protection des troupeaux en Suisse et dans les Alpes vaudoises

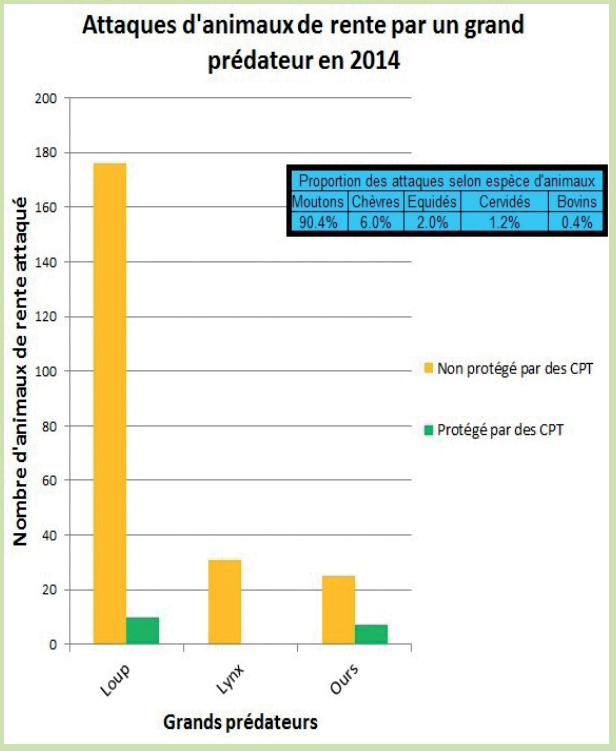
## Contexte

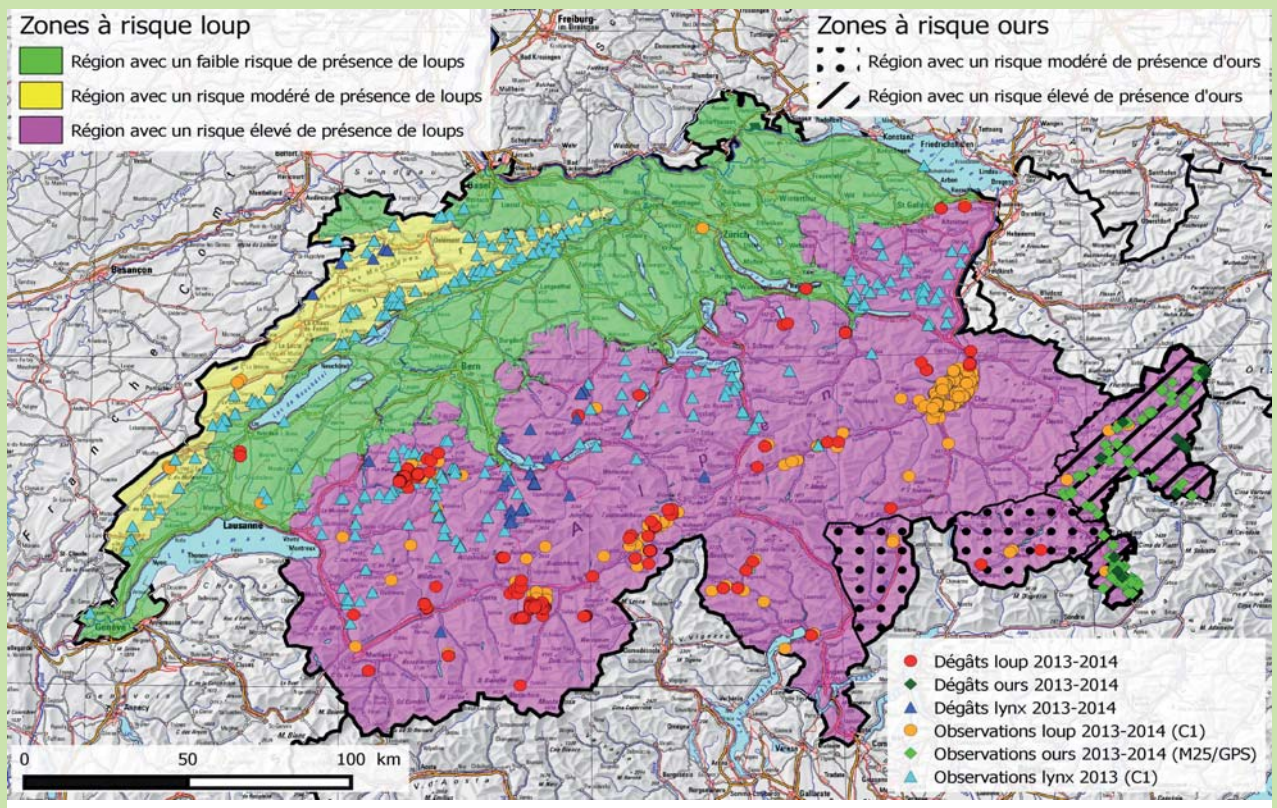
Depuis le retour des grands prédateurs en Suisse, des dégâts sont régulièrement observés sur les animaux de rente. Il est par conséquent important de protéger les troupeaux de moutons, de chèvres et dans des cas isolés de bovins avec des mesures adaptées. L'Office fédéral de l'environnement (OFEV) a développé un programme de prévention grâce auquel les mesures de protection des troupeaux sont encouragées et soutenues de manière ciblées. AGRIDEA est responsable de la coordination de ce programme au niveau national.


## Mesures de protection des troupeaux

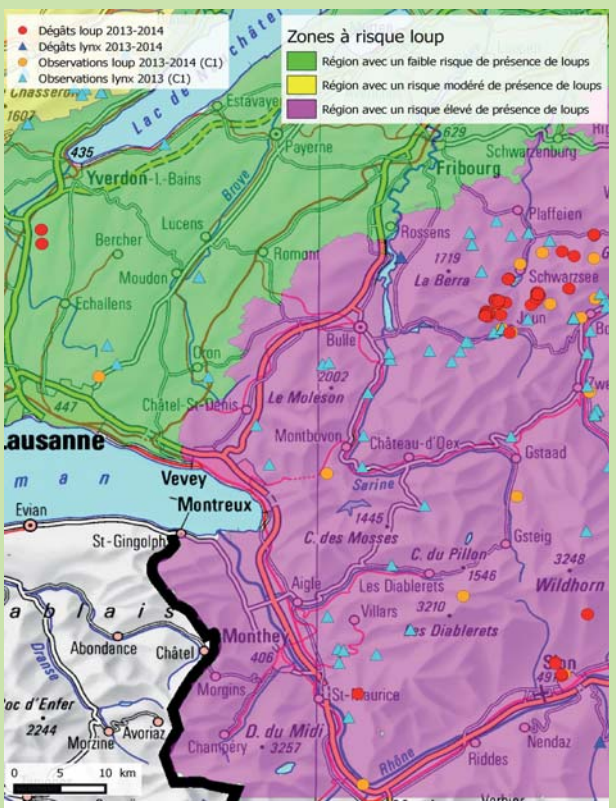
Plusieurs mesures existent afin de protéger les troupeaux :

- **L'utilisation de chiens de protection des troupeaux (CPT)**
- **La mise en place d'une clôture de protection**
- Les effaroucheurs (mesures à court terme)
- Les lamas et les ânes (efficacité pas démontrée)
- L'adaptation de la gestion du troupeau (souvent en complément aux mesures ci-dessus)




***Carte 1:*** *Présence de grands prédateurs en Suisse (2013-2014) et zones prioritaires pour la protection des troupeaux.*




***Carte 2:*** *Présence de grands prédateurs dans les Alpes vaudoises (2013–14)*

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# Les chiens de protection des troupeaux et le tourisme

## Généralités

Les chiens de protection des troupeaux (CPT) protègent les moutons contre les attaques de loups, de lynx, d'ours, de renards et de chiens errants. Ils ne représentent aucun danger pour l'être humain, mais peuvent se montrer très intimidants. Il est important lors d'une rencontre avec CPT de suivre quelques règles de comportement.

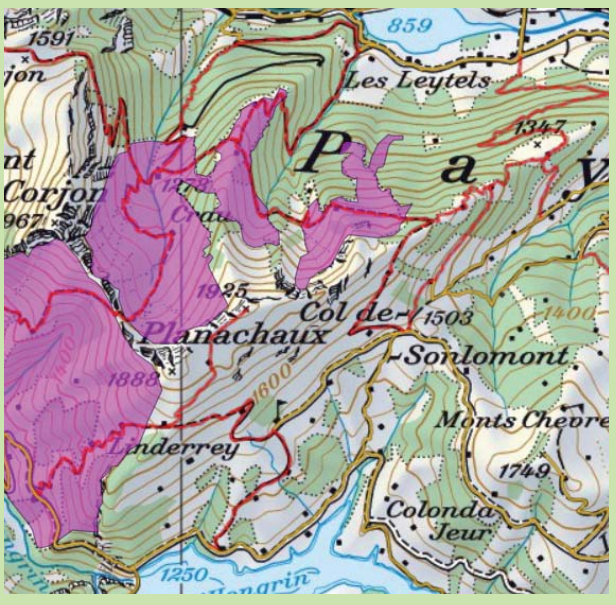
## Comportement à adopter en face de chiens de protection des troupeaux

- Dérangez le moins possible le troupeau et les chiens. Restez calme, évitez les mouvements brusques et gardez autant que possible vos distances avec le troupeau.
- Il est déconseillé d'être accompagnez par un chien de compagnie. Si vous êtes malgré tout avec votre chien, tenez-le en laisse.
- Vous circulez en vélo, descendez-en et poussez-le, en tant que randonneur, ralentissez votre rythme
- Si le CPT ne se calme pas après une longue période, alors contournez le troupeau aussi largement que possible. En cas de doute rebroussez chemin

## Chiens de compagnie et chiens de protection des troupeaux

Une rencontre entre un CPT gardant son troupeau et un chien de compagnie peut être à haut risque. Les chiens de compagnie en tant que proche parent des loups sont généralement éloignés du troupeau par les CPT de manière beaucoup plus déterminée que les humains. Pour cette raison, lors d'une randonnée dans une région avec une présence possible de CPT, il est vivement déconseillé d'être accompagné par un chien de compagnie.


*Le panneau d'information ci-dessus avertit les touristes que des CPT travaillent dans cette région et les renseignent sur les comportements à adopter.*




*Il est possible de vous informer à l'avance sur la localisation des pâturages où vous pourriez rencontrer des CPT grâce à la carte interactive disponible sur le site internet de la protection des troupeaux.*

Contact: Service chargé des chiens de protection des troupeaux, AGRIDEA, www.protectiondestroupeaux.ch

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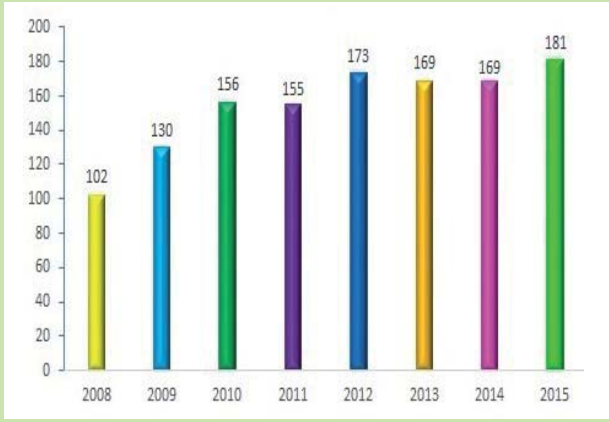
# Les chiens de protection des troupeaux

## Généralités

Les chiens de protection (CPT) sont utilisés depuis des millénaires pour protéger les animaux de rente des grands prédateurs (loup, lynx, ours). Plus de 50 races sont connues au monde. L'introduction de CPT en Suisse s'est faite, depuis 1999, principalement avec deux races :

- le berger de la Maremme et des Abruzzes
- le Montagne des Pyrénées (Patou).




*Nombre de CPT en activité sur les alpages en Suisse de 2008 à 2015*

*Maremme de Abruzzes*

*Montagne des Pyrénées*

## Elevage et formation

Les CPT naissent et grandissent au milieu du troupeau. Ils nouent ainsi un lien étroit avec les animaux qu'ils doivent protéger. Les CPT utilisés en Suisse proviennent de lignées de travail, l'instinct de protection est inné chez eux. Les éleveurs / formateurs doivent socialiser les CPT avec l'être humain et l'environnement en général afin qu'ils aient un caractère équilibré.

## Détention et utilisation

Si un détenteur d'animaux de rente veut acquérir un CPT pour protéger son troupeau, il doit d'abord formuler une demande auprès du préposé cantonal à la protection des troupeaux de son canton. Si l'utilisation de CPT est possible et s'avère être la meilleure solution, il doit obligatoirement suivre un cours théorique (attestation de compétence pour détenteur de CPT) puis un cours pratique avec ses CPT. Avant la montée à l'alpage, il doit évaluer les risques d'incident avec les touristes et mettre en place des mesures pour les minimiser. Un guide créer par le service de prévention des accidents dans l'agriculture (SPAA) a été créé afin d'aider les exploitants à satisfaire à leur devoir de diligence lors de l'utilisation de CPT.

*Les CPT sont toutes l'année avec leur troupeau, de jour comme de nuit, par beau ou par mauvais temps, été comme hiver. Les chiens et le troupeau doivent être contrôlés régulièrement.*

*En Suisse, les CPT sont avant tout utilisés pour protéger des moutons, mais ils gardent aussi des chèvres et parfois des bovins.*

Contact : Service chargé de la protection des troupeaux, AGRIDEA, www.protectiondestroupeaux.ch

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# Formation suisse des bergères et bergers de moutons

## Un métier très ancien avec des défis bien actuels

- **210'000…** c'est le nombre moutons estivés chaque année en Suisse. Une activité soutenue par la Confédération puisque cette dernière verse aux exploitants d'alpages des contributions spécifiques liées à la gestion de la pâture. Et la gestion ? La où on pratique un gardiennage permanent, elle se fait par l'un des plus anciens métiers du monde : berger! En plus des interactions avec les troupeaux, les chiens de troupeau et l'environnement alpestre, la profession exige de bonnes compétences d'observation, de l'endurance, de l'autonomie, de la stabilité mentale et un sens aigu des responsabilités pour assurer le bien-être des animaux confiés.
- Une conduite professionnel du troupeau par un berger sur les alpages à moutons est de plus en plus important pour quatre raisons :

1. Entretien durable du paysage.
2. Augmentation de la biodiversité grâce à l'exploitation respectueuse de la montagne et de la nature.
3. Meilleure surveillance de la santé des animaux.
4. Meilleure protection contre les grands prédateurs.

- Actuellement en Suisse, environ 180 alpages à moutons sont gérés par des bergers et environ 30 troupeaux transhument en plaine pendant l'hiver.

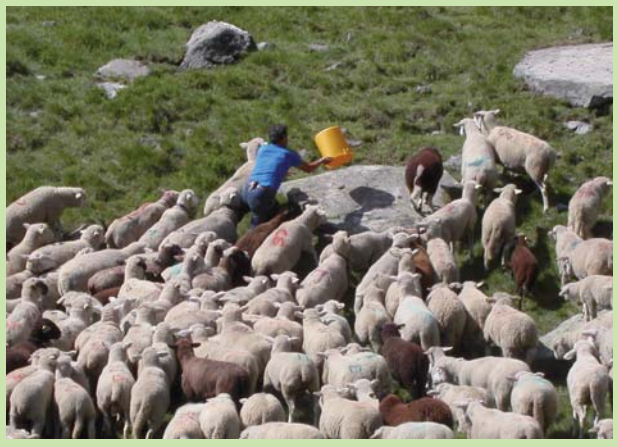
## La formation

AGRIDEA offre, en collaboration avec les écoles d'agriculture de Châteauneuf, de Viège et de Landquart, une formation pour les bergères et les bergers de moutons. Composée de trois modules théoriques, de deux stages pratiques, et d'une formation facultative avec un chien de conduite, la formation est validée par un rapport de stage et un entretien final.

## Stages en alpage et sur l'exploitation

Représentatifs de la réalité, c'est souvent durant cette étape que la personne en formation décide de continuer le métier. Le stage sur un alpage, d'une durée minimale de deux mois, est effectué sous l'encadrement d'un berger professionnel. Le travail en bergerie, d'une durée de trois semaines, donne un aperçu notamment du travail d'agnelage, de la vermifugation et de l'alimentation des moutons.

Pour la formation pratique et continue (facultative) de chiens de conduite, la SSDS (Swiss Sheep Dog Society), représentée sous forme de groupes régionaux au niveau suisse, offre des cours adaptés pour tous les niveaux.



## Module « le berger et les moutons »

**Détention et estivage des ovins**

- Caractéristiques, anatomie des moutons
- Santé et bien-être des animaux
- Conduite du troupeau au cours de la journée
- Droits et devoirs du-de la berger-ère
- Contributions d'estivage
- Directives cantonales d'estivage

## Module « chiens de troupeaux et de protection »

- Races, aptitudes des chiens de conduite
- L'achat et la formation d'un chien conduite
- Les différentes taches des chiens de conduite et des chiens de protection des troupeaux
- Vue d'ensemble des mesures de protection des troupeaux
- Répartition et importance des grands prédateurs
- Journée pratique avec le chien de conduite

## Module « Gestion de l'alpage »

- Types de pâturage, plantes fourragères, plantes toxiques
- Zones protégées, systèmes de conduite
- Topographie et lecture de cartes
- Matériel de clôtures et exercices pratiques

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# Notes