

FEDERAL FUNDING FOR LIVESTOCK PROTECTION MEASURES IN SWITZERLAND

Felix Hahn^{1*}, Daniel Mettler², Andreas Schiess², Daniela Hilfiker²

¹ AGRIDEA, Avenue des Jordils, CH- 1006 Lausanne, Switzerland

² AGRIDEA, Eschikon 28, CH- 8315 Lindau, Switzerland

1. Introduction

As large carnivores expand their ranges throughout Europe and recolonize regions from which they had been extirpated, conflicts with farmers are bound to increase. This is especially so in regions where livestock management is no longer adapted to their presence, making livestock very vulnerable to carnivore attacks. In Switzerland, after more than a century of absence, the renewed presence of Eurasian lynx (*Lynx lynx*), brown bears (*Ursus arctos*) and, especially, wolves (*Canis lupus*) has increased the need to implement effective damage prevention measures (Breitenmoser, 1998; FOEN, 2013). According to official estimates provided by the Swiss Federal Office for the Environment (FOEN), in the past 12 years an average of 250 sheep have been killed each year by large carnivores. These are protected by national legislation, and the state compensates the damages they cause and funds the use of damage prevention measures to make them economically viable. Furthermore, the regulation of lynx and wolf populations, foreseen in the legislation if damage reaches a certain threshold, is only possible if the use of adequate damage prevention measures was in place prior to the attacks.

The Swiss Federal Office for the Environment (FOEN) maintains a national livestock protection

programme based at AGRIDEA. In addition to the coordination and further development of livestock protection measures, this programme provides consultation services to farmers and government agencies, the breeding and training of livestock guarding dogs (LGDs) under the responsibility of the association “Livestock Guardian Dogs Switzerland” (a union of breeders and owners of LGDs; for further details see: Pfister and Nienhuis, 2017), as well as financial aid to farmers who implement herd protection measures. The Federal Office for Agriculture (FOAG) supports farmers with incentives for good grazing management. The system of federal contributions to farmers is briefly explained here, but the details of the whole herd protection programme are contained in a Directive by the Federal Government (FOEN, 2016).

2. Damage prevention measures funded

2.1. Livestock guarding dogs

FOEN supports the keeping of LGDs (especially Maremma Sheepdog and Great Pyrenees breeds) deployed under the national herd protection programme, with an annual contribution of 1,200 CHF (\approx 1,030 EUR) (Fig. 1). This sum covers the average expenses an owner incurs for his dog, such as food, veterinary, purchase and other costs. Dogs that have

* Corresponding author: felix.hahn@agridea.ch



Fig. 1. The Maremma Sheepdog (above) and the Great Pyrenees (below) breeds are supported by the Swiss Federal Office for the Environment under the national herd protection programme. Photo: AGRIDEA.

completed basic training are currently sold in Switzerland for 1,200 CHF. However, the everyday work required to manage dogs, which is especially significant in the case of inexperienced new owners or in areas with a high tourist density, is not compensated.

2.2. Summer grazing in mountain pastures

Transhumance (taking livestock to mountain pastures for the summer) is encouraged by financial incentives from the Federal Office for Agriculture (FOAG) in order to support sustainable management of the Alps (prevent overuse of pastures etc.), basically irrespective of any herd protection measures. The only exception is contributions for taking sheep up to mountain pastures by means of the so-called rotational grazing system (fenced pasture enclosures rotating every 2 weeks). Here, the use of LGD is rewarded with a 20% higher FOAG contribution (the equivalent of approximately 13 CHF (\approx 11 EUR) per adult sheep per summer season).

Contrary to FOAG, FOEN supports the use of LGDs in summering areas independent of the grazing system. FOEN compensates farmers with a lump sum for the costs of keeping and monitoring LGDs in summer grazing areas. The yearly funding levels

for the use of a team of at least two dogs per flock differ according to the grazing system: 2,000 CHF (\approx 1,710 EUR) per livestock unit with permanent shepherding as well as for alpine cattle, goats or milk sheep; 500 CHF (\approx 430 EUR) per livestock unit with rotational or permanent pastures. Furthermore, FOEN also compensates 80% of the costs of material to fence hiking trails where LGDs are used, up to a maximum of 2,500 CHF (\approx 2,140 EUR) for a period of five years (Fig. 2). This measure is designed to minimise any potential conflicts between LGDs and hikers, bikers, etc.

2.3. Electric reinforcement of pasture fences

A further measure aimed at herd protection is the electrical reinforcement of pasture fences, and reinforced fences around stables to keep large predators out (Fig. 3). Measures classified as reinforcement are: 1) an external and low-lying stranded wire (at about 15–20 cm above the ground) and an upper additional wire (at about 105–120 cm, electrified, with non-electrified plastic ribbon as a visual barrier, Fig. 4) to increase the height of the net wire fence; 2) the electrified reinforcement of grazing nets (increased height with one or two additional strands at 110–120 cm)



Fig. 2. To prevent conflicts between LGDs and hikers or bikers, FOEN funds the acquisition of material to fence hiking trails. Photo: AGRIDEA.



Fig. 3. Reinforcement of traditional fences around stables, adding one low and one upper electrified wire, is funded by the FOEN to increase herd protection. Photo: AGRIDEA.



Fig. 4. White and blue plastic ribbons on top of electrified fences act as a visual barrier to discourage predators from crossing the fences. Photo: AGRIDEA.



Fig. 5. The reinforcement of electrified grazing nets, by increasing the normal height with one or two additional strands, is also funded by the FOEN. Photo: AGRIDEA.

(Fig. 5). This measure is used in particular in lowland areas, more rarely in mountain pastures. Fencing is recommended in general for relatively small pastures (max. 3–4 ha) where a rotational grazing system is practised.

The farmer is compensated by FOEN for the electrification of fencing systems or up-grading conventional electrified fencing systems to the extent of 80% of the material costs, up to a maximum of 0.70 CHF (\approx 0.60 EUR) per running metre of fence. For the combination of “electrical reinforcement of pasture fences for protection from large predators” plus “difficult maintenance of pasture fences for protection from large predators” (see below) there is a ceiling limit of 5,000 CHF (\approx 4,280 EUR) for a period of five years.

2.4. Night penning in alpine summer grazing areas

Night-time containment of sheep or goats in pens can be an effective measure for herd protection in

alpine grazing areas (Fig. 6). Mostly electrified nets (105 cm high) are used. For big flocks, several “fence-packages” for several night pens can be compensated. FOEN reimburses farmers 80% of the material costs (excluding the energizer) for construction of night pens. Every alpine farm can obtain a maximum contribution of 2,500 CHF for a period of five years.

2.5. Maintenance of fences in difficult terrain

The maintenance and (daily) checking of electric fences for herd protection is extremely problematic in Alpine terrain due to steep, rocky and sometimes dry conditions. Therefore, it is supported. FOEN compensates farmers for expenses related to the difficult maintenance and control of electric fences for herd protection in mountain areas with 0.30 CHF (\approx 0.26 EUR) per running metre of fence per year. Each farm is eligible for the contribution combination “electrical reinforcement of pasture fences as protection from large predators” plus “difficult maintenance of pasture



Fig. 6. Night-time pens can be an effective measure to protect livestock in alpine grazing areas, and the FOEN funds the upgrade of traditional net-wire fences to electrified nets. Photo: AGRIDEA.

fences for protection from large predators”. There is a ceiling limit per farm of 5,000 CHF for a period of five years.

2.6. Protection of beehive and apiaries

FOEN supports beekeepers in the installation of electric fencing around beehives and apiaries in areas with potential occurrence of brown bears in the cantons of Graubünden and Ticino (Fig. 7). The beekeeper is subsidised with a lump sum of 700 CHF (\approx 600 EUR) per site for expenses related to the fencing of a beehive or apiary. This includes the cost of the fencing material and electrification. The estimated life-time of equipment is generally estimated at 7 years. So the beekeeper can ask for another payment after 7 years.

2.7. Other prevention measures

If cantons wish to support farmers in taking protection measures other than dogs or fences, they may apply to FOEN for funds (up to a maximum of 80% of the effective material costs), but must be able to

demonstrate the usefulness of the measures chosen in their local context. Deterrent measures for herd protection such as the use of flashing lights, as well as llamas or donkeys as guard animals, are not directly subsidised by the Federal Government. Donkeys and llamas are used especially for small predators such as foxes or stray dogs. For these unprotected species, prevention measures are not subsidised. Flashing lights and other deterrents are not subsidised because their effect is only considered efficient for a short “emergency” period.

2.8. Emergency kits

The unpredictable appearance of dispersing large predators can lead to the need for emergency herd protection, which takes the form of immediate fencing of livestock at risk (for example, emergency night pens in summering areas). For such emergency situations, FOEN provides cantons with a corresponding number of emergency kits for herd protection. FOEN covers the cost of such emergency kits up to

the amount of 4,000 CHF per kit (\approx 3,420 EUR). The service life of the equipment is generally estimated at five years. Since 2015 foxlights (Fig. 8) are also financed by this measure since they should be used only for short periods and in emergency cases.

3. Damage compensation

When it is confirmed by an experienced wildlife ranger or by DNA analysis (performed in a certified laboratory) that livestock have been killed by large predators, the Federal Government Confederation and the cantons usually compensate the farmers concerned, irrespective of whether they have taken herd protection measures or not (the compensation amount is currently based on the market and breed reference value of the Swiss breeding associations). This regulation is currently being reconsidered in various cantons to ensure that livestock are compensated only when preventive measures have been taken. On the one hand, this would entail a considerable administrative effort regarding the official clarification of each herd protection measure linked to the damage. On the other hand, this would also increase the incentive for livestock owners to take protective measures. This problem is linked to the fact that the risk of damage by predation is still quite low in some regions. Because of this risk evaluation the farmers may accept some



Fig. 7. Beekeepers are also subsidized by the FOEN to install electric fences around beehives to prevent damages from brown bears. Photo: AGRIDEA.



Fig. 8. Foxlights are subsidized to prevent damages during short periods, as part of the emergency kits provided by FOEN to cantons. Photo: AGRIDEA.

damages which are financially compensated instead of taking preventive measures.

4. Final considerations

It is important that livestock owners are not left alone with their problems caused by large predators, and also that they receive financial support. Subsidies provided by the FOEN since 2003 for supporting the use of LGDs total 2,843,800 CHF (\approx 2,430,000 EUR). Subsidies for improving and implementing the use of fences, as well as foxlights, total 510,332 CHF (\approx 436,000 EUR) (Fig. 9).

However, experience has shown that the implementation of herd protection measures is usually less influenced by the level of funding than by other factors, in particular the level of motivation of the farmer

to engage in what for him is a tiresome subject: herd protection, which is often equated with the acceptance of large predators (see Mettler and Hilfiker, 2017). In addition, comprehensive advice and support by proven experts from the agricultural environment are key for the long-term successful implementation of herd protection measures. The amount contributed is, of course, particularly important where farmers and alpine shepherds are short of resources (working time and money). In such cases one-off financial support from NGOs, or project funds for the expensive, but necessary, adaptation of the grazing system or to renovate shepherding shelters, as well as work assignments (for example, the installation of protective fences by volunteers or persons doing community service) can be of great help.

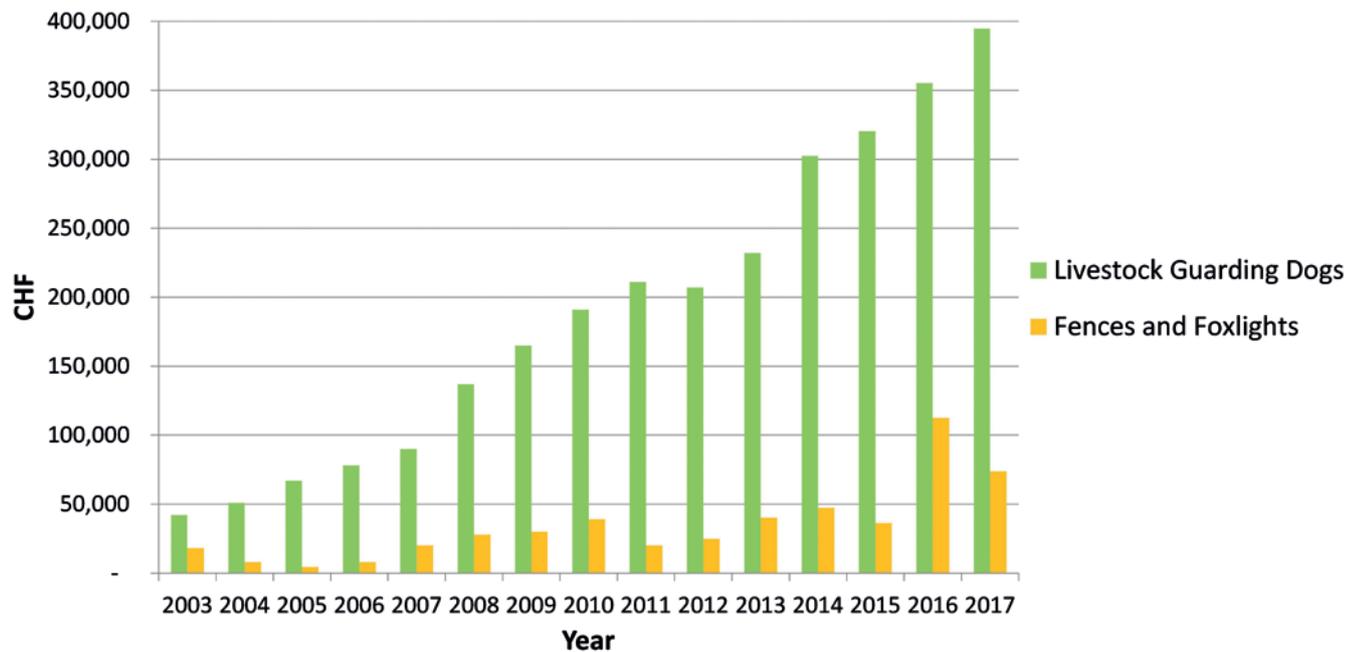


Fig. 9. Annual subsidies paid by the FOEN for LGDs and for fences and foxlights.

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