



Preventing the extinction of the Dinaric-SE  
Alpine lynx population through reinforcement  
and long-term conservation



# Report about the use and effect of electric fences

## *Action C.9*

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# 1 INTRODUCTION

The main goal of the LIFE Lynx project (LIFE16 NAT/SI/000634) is preventing extinction of the Dinaric – Southeastern Alpine lynx population through reinforcement.

The lynx is an active predator that is used to hunt its prey in different environments, but mostly in forested areas where its main prey is present. Occasionally, also the lynx can interact with people's activities, such as farming, especially with livestock breeding. Where such activities are located in areas where predators are present, the latter may seize the opportunity and prey on domestic animals.

However, as predominantly forest-dwelling animals, lynx rarely visit open grazing lands with little or no cover. In Europe, especially in human-dominated landscapes as in most parts of Slovenia, grazing areas and pastures are interspersed with the edge of the forest, so occasionally encounters between the lynx and grazing animals can occur.

Human tolerance towards large predators is a crucial factor in long-term protection of these species, thus understanding and supporting stakeholders who deal with the coexistence on a daily basis is very important, even though the lynx is not perceived as conflict species in the project area. In order to prevent potential lynx attacks on small livestock and to react to such damage events, the project aimed to distribute damage prevention equipment to help farmers in areas of lynx presence. Our goal was to monitor the data about lynx depredation on grazing animals, to monitor whether these damage events are more frequent as a consequence of the reinforcement of the population, to assist farmers in the field with advice and distribution of appropriate protective equipment, to monitor the proper use of distributed equipment and to cooperate with the damage officials of the Slovenian Forest Service and the officials from the Carabinieri Forestali from Italy.

## 2 DAMAGE PREVENTION ACTIVITIES

### 2.1 Damages caused by lynx

Compared to brown bears and wolves, lynx depredations are very rare in the project area. Lynx has never been reported causing any damage in Friuli Venezia Giulia and Veneto regions during the last 15 years. In Slovenia, damages caused by lynx have never been high in the last 15 years either (Fig. 1), mainly because the population was declining and the likelihood for attacks on grazing animals were low. Single damage cases occurred, where lynx depredated sheep or chickens. Within the project, we monitored the situation regarding lynx depredation on domestic animals and visited the locations where the attacks occurred to examine the depredation dynamics.

The average of damage cases before the first translocation of lynx to Slovenia, that happened in April 2019, was 2,9 cases/year, with the average number of killed animals of 6,11 per year (2010-2018).

After the population was reinforced, lynx depredated four animals (2 sheep and 2 fallow deers kept in a fenced pasture). The average of damage cases decreased to 0,6 cases/year and the average number of killed animals dropped to 0,8 animals/year.

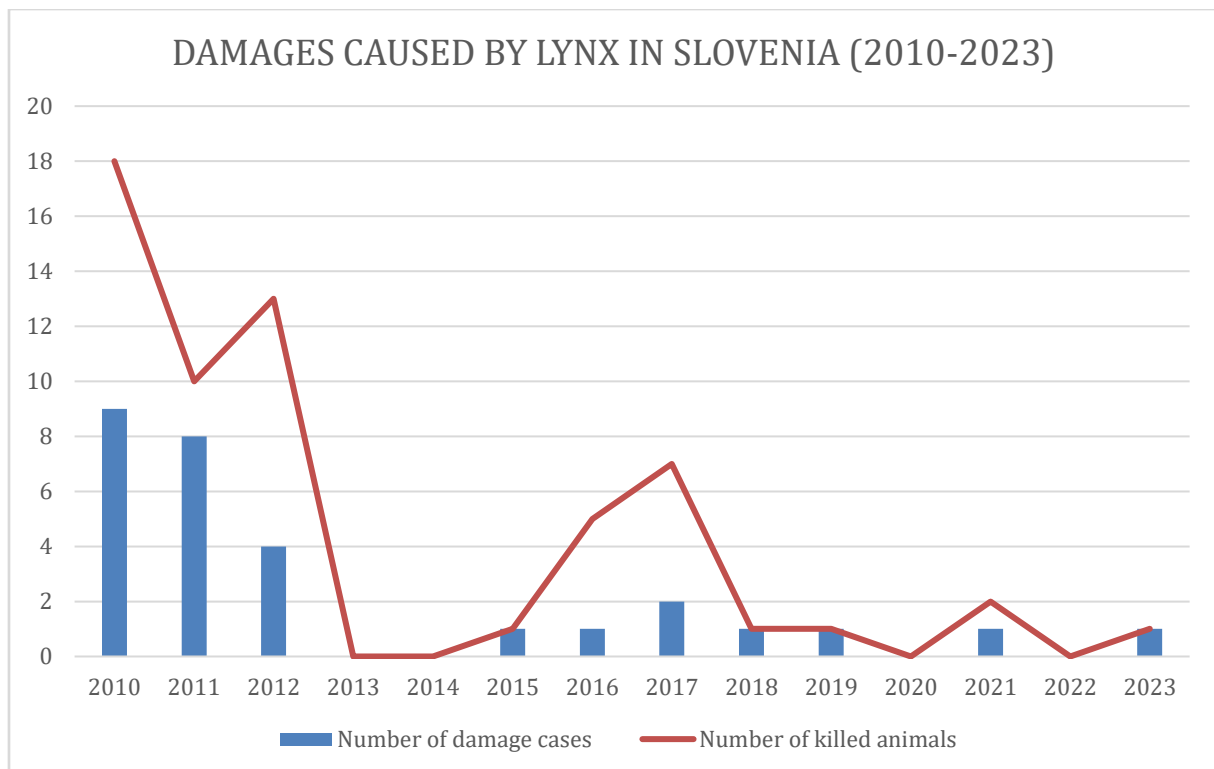


Figure 1: Damages caused by lynx in Slovenia in the period between 2010 and 2023.

## 2.2 Damage prevention activities within LIFE Lynx project

In Italy, based on the fact that damages of large carnivores on small livestock are rare, the Carabinieri Forestali purchased three sets of electric fences, powered by solar panels. In Slovenia, in the last decade, many activities were focused on finding solutions for preventing damages caused by large carnivores on human property, especially for protecting grazing animals. Within projects, SFS and other institutions have been collaborating with livestock breeders, beekeepers and other farmers to spread the network of good practice examples. Within the LIFE Lynx project, SFS distributed 14 sets of electric fences (out of 12 foreseen). Each set consisted of 300-400m of high electric nettings (170 cm of height), an energizer, a battery, a voltmeter and three grounding rods. When distributed, the equipment is ready to install and to use it. In Italy, three sets of electric fences were purchased by the Carabinieri Forestali to serve as emergency kits and are available at the regional premises.

The main goal of the distribution was to help farmers protect their grazing animals (sheep) in areas where lynx were present. The same equipment also serves as a protection against wolves and bears.

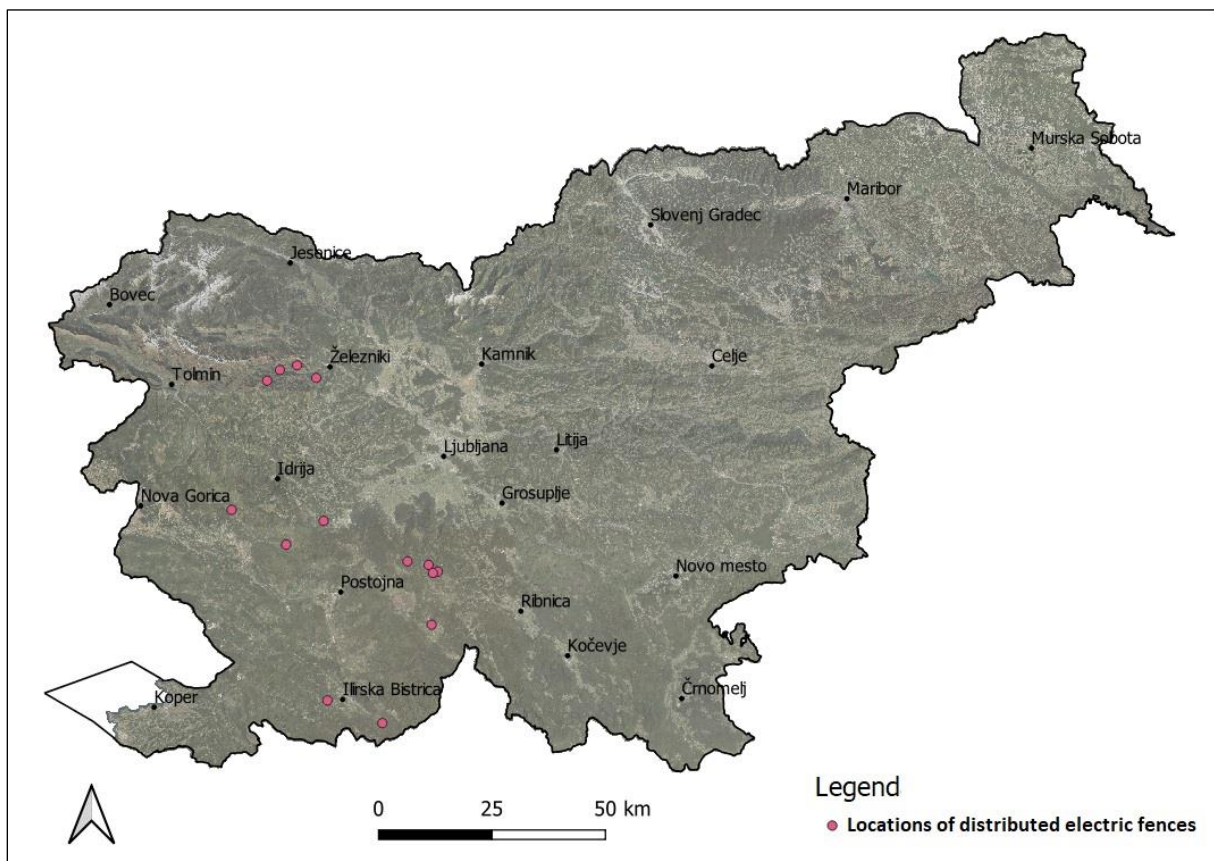


Figure 2: Map of distributed electric fences in Slovenia.

Project staff and SFS damage officials regularly checked all the distributed fences to monitor the use of equipment in order to assure proper installation and use. The most important element in the electric

fence is the constant presence of a high voltage electric current. Its role is to ensure that when touching the fence the predator receives a sharp shock that triggers fear.

The results of the use of electric fences were very positive, as none of the farmers who received the electric fences has experienced damages by lynx. Moreover, the distributed equipment has proved efficient also against wolves and bears present in the area.



*Figure 3: A herd of goats protected with high electric nettings. Photo: Tomaž Berce*



*Fig. 4. A flock of sheep fenced with electric net in Italy. Photo: Anja Molinari-Jobin*

### 3 DISCUSSION

The non-conflicting nature of the lynx towards farming practices can probably be attributed to a combination of different characteristics: the lynx as a predominantly forest animal rarely enters in farmland areas such as pastures, locally high densities of wild prey, the increasing number of well protected pastures with electric fences and guarding dogs, and the rare occurrence of free grazing herds. Slovenia Forest Service is putting many efforts into emphasizing the importance of good damage prevention practices such as electric fencing and the use of livestock guarding dogs. With this, the improvement of damage prevention approaches is evident in the field – despite the increase in the population numbers of wolves (tripled in the last 10 years and spatially expanded), bears (doubled in the last 10 years) and lynx (reinforced population and spatially expanded), the number of damage cases are not increasing.

These results have to be attributed also to the effort done by the Ministry of Natural Resources and Spatial Planning, which co-finances 80% of the purchase of equipment to farmers who have already experienced damage on their property.

In Italy, regional authorities provide funds for the compensation and the prevention of damages done by brown bear, wolf and lynx. Additionally, in the frame of LIFE Lynx project, the Carabinieri Forestali have purchased three sets to provide quick assistance in the field in case of damage by lynx. During the whole project period no damages were reported.

Despite not causing major problems and conflicts within farmers' communities, sporadic depredations must not be undervalued and overlooked, especially when such cases are recurrent. To prevent the repetition of such events, Slovenia and Italian Forest Services have an informed and educated staff of damage officials ready to intervene and help farmers not only with knowledge and expertise but also with intervention kits of electric fences, which can be quickly set in the field.



## **4 CONCLUSION**

The increase of the lynx population in the Dinaric Mountains and in the Alps may lead to the occasional attacks on livestock. However, data show that despite being a large predator the lynx cannot be described as conflict species in this part of Europe in terms of depredation of grazing animals as it extremely rarely preys on pastures. To prevent such events, efforts are being constantly made by different institutions, especially by Slovenia Forest Service and the Ministry of Natural Resources and Spatial Planning.

The aim of helping farmers protect their grazing animals from possible attacks in the area where large carnivores are present remains a high priority within Dinaric regions and the Alps. The goal is to maintain the tolerance towards lynx among local communities and farmers for a long-term conservation of the species.