

STUDY AREA DESCRIPTION

GROSSETO PROVINCE

TOSCANA, ITALY



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**Funded by
the European Union**

duration of three years.

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1 INTRODUCTION

The study area is located in the province of Grosseto in Tuscany, where rolling hills stretch from the Mediterranean coast in the west to the Apennine mountains in the east. The landscape is largely dominated by semi-agricultural land interspersed with woodlands. The terrain varies from agricultural areas interspersed with Mediterranean maquis to oak and chestnut forests interwoven with pastures. Woody cultivations, primarily olive groves and vineyards, add to the region's distinctive character.

Wolves were almost eradicated in the late 1960s, with recolonisation only beginning in the early 1980s. Livestock farming in the area is mainly small-scale and semi-extensive, involving the raising of sheep and cattle. Based on previous research, CoCo focused on the areas of the Maremma region where livestock depredation and human–wildlife conflict are most prevalent, particularly in the central and southern parts of the province.



Figure 1. Sheep herd and livestock guarding dog in Grosseto (June 2025, Photo Credit: Filippo Marino).

2 OVERVIEW

- ▶ **Municipalities:** Campagnatico, Grosseto, Scansano, Magliano in Toscana, Manciano, Orbetello, Civitella Paganico, Roccalbegna, Castel del Piano, Capalbio
- ▶ **Geographical size:** 1468 km² (polygon including all surveyed farms)
- ▶ **Human population:** 124,562 inhabitants across the municipalities that include surveyed farms (as of June 2025).

- Campagnatico: 2,351
- Grosseto: 81,296
- Scansano: 4,402
- Magliano in Toscana: 3,248
- Manciano: 6,950
- Capalbio: 3,665
- Orbetello: 13,977
- Civitella Paganico: 2,943
- Roccalbegna: 916
- Castel del Piano: 4,814

- ▶ **Number of livestock farmers (approx.):** In 2025, within the targeted municipalities, there were 409 farms with cattle (17,261 animals) and 517 farms with sheep and/or goats (87,322 sheep).
- ▶ **Livestock farming systems:** Mostly semi-extensive sheep and cattle farming, along with beef cattle and horse farming, ranging from low-input family operations to larger commercial farms.
- ▶ **Wild large carnivore species:** Apennine grey wolf
 - **Large carnivore populations:**
 - Apennine grey wolf: 22-24 packs



Figure 2. Flock of Sheep and livestock guarding dogs in Grosseto (June 2025, Photo Credit: Luisa Vielmi).

3 SOCIOECONOMIC CONTEXT

- ▶ Agriculture and tourism are the backbone of Grosseto’s economy. The territory is almost entirely covered by agricultural land (47.3%) and forests (39.3%), while the remaining area consists of shrubland and urban areas. The lowland and coastal vegetation is dominated by Mediterranean maquis, evergreen oak (*Quercus ilex*) and cork oak (*Quercus suber*), transitioning into oak (e.g. *Quercus pubescens*) and beech (*Fagus sylvatica*) forests towards the east and the Apennines.
- ▶ Recent genetic analyses of wolf DNA have revealed that around 50% of the wolves in the province show evidence of past crossbreeding with dogs. This highlights the need to prevent wolf-dog hybridisation.
- ▶ Despite an overall high level of development and urbanisation in certain areas, some of the municipalities in the Grosseto province are included in the Regional Strategy for Inner Areas (2021-2027), as they are distant from major urban centres and essential services.



Figure 3. The landscape in the Maremma area varies considerably, making it difficult to implement preventive measures such as mobile electric fences (June 2025, Photo Credit: Filippo Marino).

4 FARMING CONTEXT

The Province of Grosseto hosts the largest share of livestock farms in Tuscany (17.9%), with 24.3% of farms owning cattle, and 30.8% owning sheep (as of 2020). Farming systems range from low-input family operations to larger operations, with varying levels of mechanisation depending on landscape characteristics. Many farms are also involved in crop production, including cereals, wine, and olives. Sheep (such as Appenninica and Lacaune breeds) and cattle (such as Chianina) are reared for meat and milk/cheese production.

- ▶ The total number of farms and sheep raised for milk production has declined over time, whilst the number of cattle and sheep for meat production has remained relatively stable.
- ▶ Grosseto is home to 920 sheep and goat farms (15.6% of the regional total), housing 2,458 goats (11.3%) and 122,919 sheep (48.1%). Approximately 39% of farms focus on milk production, whilst 41% focus on meat production. However, as of June 2025, milk farms accounted for around 86% of the total sheep and goats, with meat farms holding only 14%.
- ▶ There are 660 cattle farms in the Province of Grosseto (22% of the regional total), housing 23,856 animals (34.7%). Around 10% of these farms focus on milk production, comprising around 29% of the total cattle population. Meanwhile, 89% of farms focus on meat production, holding approximately 70% of the population (as of June 2025).

Farmers must implement at least one livestock damage prevention measure to be eligible for compensation payments. The compensation system has evolved over time. In 2005, the Regional Government introduced an insurance-based system, which saw poor uptake amongst livestock breeders. Under the current National CAP Strategic Plan (SRA17), annual payments are provided per hectare of grazed land, to promote management techniques that enable coexistence with large carnivores, by fostering social acceptance of them, enhancing biodiversity conservation, and protecting the landscape.

Main Challenges:

- ▶ Perception of excessively high wildlife densities, including wild boars, roe deer and wolves.
- ▶ Lack of cohesion and cooperation amongst farmers.



Figure 4. Day shelters are common in the area during to avoid higher temperatures and prevent predation in summer (July 2025, Photo Credit: Filippo Marino).

5 LOCAL CONFLICT ASSOCIATED WITH LARGE CARNIVORES

Number of attacks:

Between 2015 and 2017, a total of 1080 attacks resulted in 2,632 animal losses. However, a research project implementing preventive fencing achieved a 33% reduction in attacks and a 31% reduction in animals killed. In 2019, only around 700 sheep were reported killed.

Social conflict:

- ▶ Polarisation among stakeholder groups regarding wolf conservation and management, including a certain level of division among farmers.
- ▶ The compensation system is perceived as insufficient, failing to account for increased workloads and stress.
- ▶ Non-lethal preventive measures, such as guard dogs and electric fencing, are mostly used around farms. Their use seems to have decreased in high-altitude summer pastures, particularly for cattle farming, and in areas frequented by tourists.

- ▶ Wolves entering human-inhabited spaces, including towns and private properties, even during the day.
- ▶ Widespread belief that the return of the wolves was largely due to reintroductions conducted by environmentalists and conservationists.



Figure 5. Sheep crossing the road in the Manciano area (July 2025, Photo Credit: Filippo Marino).

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