STUDY AREA DESCRIPTION

HEDMARKSVIDDA

INNLANDET, NORWAY

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CoCo
Co-creating Coexistence

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1   INTRODUCTION

Hedmarksvidda is a forest and mountain region in Innlandet County, located north of Hedmark's agricultural landscape, between Gudbrandsdalen and Lake Mjøsa in the west and Østerdalen in the east. The area covers approximately 3,000 km², mostly at 600 and 1,000 metres above sea level. Our study area extends through the municipalities of Ringsaker in the west, through Løten and Hamar, to parts of Elverum in the east.

The study area is a typical multi-use landscape, where forestry, tourism, grazing, and recreation, including hiking, skiing, hunting and fishing, all take place side by side. What makes the study area particularly compelling is that it inhabits or borders the protection zones of all four large carnivores – wolf, bear, wolverine and lynx. At the same time, the region supports active livestock farmers and grazing organisations. Consequently, all four large carnivores (and golden eagles) are present, and regularly cause losses to livestock.

Figure 1:   Extensive grazing of Hereford Cattle in the typical multi-use landscape used for grazing, recreation (cabins) and forestry (Photo Credit: Morten Tofastrud).

2   OVERVIEW

▶ **Municipalities:** Parts of Ringsaker, Hamar, Løten and Elverum.

▶ **Geographical size:** 1700 km².

▶ **Human population:** While there are no permanent settlements, scattered farm buildings and holiday homes dot the landscape, particularly in the peripheral outfield zones.

▶ **Number of livestock farmers (approx.):** Approximately 150 sheep and cattle farmers.

▶ **Livestock farming systems:** Summer grazing area for sheep, dairy and beef cattle.

► **Wild large carnivore species:** Bear, lynx, wolf, wolverine and golden eagle.

► **Wolf population:** Decreasing national population trend (59-66 individuals). Only Individual wolves roam from the wolf zone in the east into the study area.

► **Bear population:** 5.9 litters born in 2024 in the region, approximately 50% of litters born nationally, well above the regional target of 3 litters per year.

► **Wolverine population:** 10.3 litters born on average in 2023-2025 in the region, well above the regional target of 5 litters per year.

► **Lynx population:** 10 litters born on average in 2023-2025 in the region, matching the regional target of 10 litters per year.

Figure 2:   Extensive grazing of Charolais cows with nursing calves in Vang (Hamar). The roads used for recreationists and tourists are also popular travel routes amongst cattle and it is not uncommon to find the animals there (Photo Credit: Morten Tofastrud).

3 SOCIOECONOMIC CONTEXT

► Hedmarksvidda is home to expansive coniferous forests dominated by Norwegian Spruce and Scots Pine. These forests account for 45% of the area of old Hedmark County, making this one of Norway's most significant forestry regions. Livestock grazing in forest areas is common here. In its lowland areas, grain, vegetables, and cereal grain-based livestock farming is prevalent. The

region's alpine areas are popular for tourism, recreation and grazing, and Ringsaker municipality, for instance, has Norway's highest number of registered cabins.

► The local economy has strong primary sectors, such as forestry and agriculture, with outfield grazing playing a particularly important role. The region has a strong agricultural industry and is home to several knowledge hubs dedicated to farming, including those focusing on livestock breeding and plant cultivation.

► The region is facing significant demographic challenges, including a declining population outmigration to cities, and an ageing population in many rural communities. Education levels in the county are among the lowest in Norway, with only 29% of residents in Innlandet having completed higher education, compared to 56% in Oslo. The number of livestock farmers has also declined in the last decades. However, active grazing organisations seem to be key to supporting the continuation of existing farms and recruiting new farmers.

Figure 3:   A farmer with his mixed-breed herd of Norwegian white and old Norwegian short tail, luring the sheep out of the forest and onto his infield pasture with a bucket of concentrated feed (Photo Credit: Morten Tofastrud).

4   FARMING CONTEXT

The region supports a wide range of farming activities, particularly the production of grains, vegetables, and livestock. Extensive summer grazing is essential for the economic viability of sheep and cattle farmers. Whilst sheep farming remains dominant, sheep numbers have declined over the last decades, whereas cattle numbers have increased, driven by growing interest in beef production.

The most common sheep breed is the Norwegian White (Norsk kvit sau), followed by the Norwegian short tail (Spælsau). The Norwegian Red Cattle (Norsk Rødt Fe) remains the most common cattle breed overall, while Charolais and Hereford are the leading breeds among beef cattle.

Main Challenges:

► Steep decline in number of farmers practicing extensive livestock grazing. For example, there was a 30% reduction in farmers in the whole region (old Hedmark county) between 2004 and 2019 , and a 17% reduction in the study area alone between 2020 and 2024.

► The traditional summer farm culture ("seterdrift") has declined drastically, as many farmers have abandoned the practice. This has resulted in the areas becoming overgrown with shrubs and forests or being further developed as cabin areas.

► Ageing farmer population and insufficient generational renewal to keep the population stable.

► Cattle farmers experience high pressure for modernisation, while particularly sheep farmers have a high dependency on subsidies.

► Predation by several carnivore species leads to economic losses, as well as psychological and emotional distress for farmers. It also results in frustration, as it shortens the grazing season and results in over-reliance on subsidies and compensation.

5   LOCAL CONFLICT ASSOCIATED WITH LARGE CARNIVORES

Number of attacks:

Livestock predation has been a long-standing issue in this region but, has declined in recent years. Between 2006 and 2024, over 15,000 sheep were compensated for in the four municipalities, averaging 829 per year. Of these, 2,000 were compensated between 2021 and 2024, averaging 446 per year. Only nine cases of cattle depredation were confirmed between 2006 and 2024, but actual losses are likely higher, as 46% of national cattle depredation reports are classified as inconclusive, and many incidents go unreported.

► Over the last two decades most sheep losses were attributed to wolves (40%) and bears (31%).

► Between 2021 and 2024, losses attributed to wolverines increased to 46% of losses, up from 8% between 2006 and 2024, while losses to bears dropped to 11% of losses in recent years. Losses to wolves (35%) and lynx (8%) remained stable.

► Most attacks occur in summer, when livestock graze freely and largely unattended in outfield pastures, making it difficult to determine exact losses and identify the responsible carnivore species.

Social conflict:

► The sheep compensation system only covers losses that exceed "normal losses" and requires official confirmation of carnivore attacks. Criticisms include the challenge of locating carcasses and confirming carnivore attacks, as well as the lack of compensation for indirect impacts, such as reduced breeding quality.

► Farmers report an increased workload and emotional stress due to the frustration of having to wait for depredation before problem carnivores can be removed.

► Non-lethal preventive measures include delayed release or early gathering of livestock, or increased monitoring through GPS tags.

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