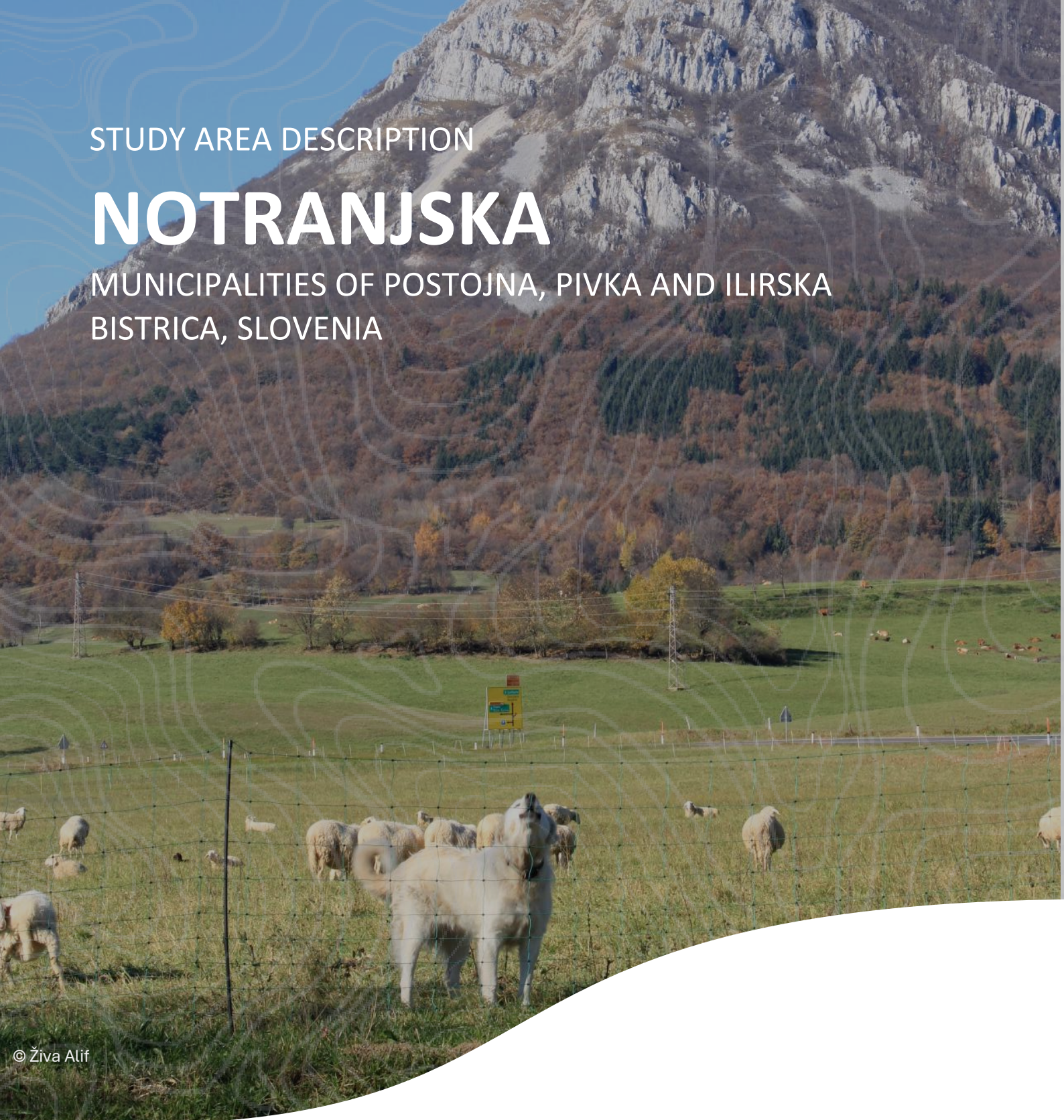


STUDY AREA DESCRIPTION

NOTRANJSKA

MUNICIPALITIES OF POSTOJNA, PIVKA AND ILIRSKA
BISTRICA, SLOVENIA



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STUDY AREA DESCRIPTION

NOTRANJSKA

MUNICIPALITIES OF POSTOJNA, PIVKA AND ILIRSKA BISTRICA,
SLOVENIA



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the European Union**

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1 INTRODUCTION

Situated in southwestern Slovenia, within the Notranjska region, the study area encompasses the municipalities of Pivka, Postojna, and Ilirska Bistrica. This area marks the transition between the Dinaric Mountains and the Karst plateau, forming part of the transboundary ecological corridor that connects Slovenia and Croatia. The landscape is characterised by extensive forests, karst plateaus, sinkholes, caves, and open pastures that have shaped local livelihoods for centuries. Traditional livestock farming persists alongside the growing nature-based tourism industry. The region is home to brown bears, grey wolves, and Eurasian lynx. In recent years, it has also become home to golden jackals, a neofaunal species that naturally expands its range in response to human-induced environmental changes. This makes it one of the few areas in Europe where four large carnivore species share human-dominated landscapes.



Figure 1: A flock of sheep protected by a livestock guarding dog in combination with fencing (Photo credit: Živa Alif).

2 OVERVIEW

- ▶ **Municipalities:** Pivka, Postojna, Ilirska Bistrica.
- ▶ **Geographical size:** ~1,150 km² (Pivka: 223, Postojna: 270, Ilirska Bistrica: 657 km²).
- ▶ **Human population:** ~31,500 (Pivka: 5,800; Postojna: 16,000; Ilirska Bistrica: 9,700; SURS 2024).
- ▶ **Number of livestock farmers (approx.):** ~520 (SURS 2023).

- ▶ **Livestock farming systems:** Predominantly small-scale extensive cattle and sheep farms using natural pastures and forest edges; seasonal grazing in open karst grasslands.
- ▶ **Wild large carnivore species:** Brown bear (*Ursus arctos*), wolf (*Canis lupus*), Eurasian lynx (*Lynx lynx*), golden jackal (*Canis aureus*).
- ▶ **Wolf population:** In season 2024/2025, four wolf packs used the study area (Bartol et al., 2025).



Figure 2: A flock of sheep is being herded through a settlement (Photo credit: Ana Novak).

3 SOCIOECONOMIC CONTEXT

- ▶ The Notranjska region lies between the Karst plateau and the Snežnik forest complex, forming part of Slovenia's most forested and sparsely populated areas. Forestry, small-scale livestock production and tourism are central to rural livelihoods. Forests cover over 70% of the area and are mainly managed by the Slovenia Forest Service (ZGS) and private owners. Agriculture focuses on mixed livestock production, haymaking, and dairy/meat processing at local cooperatives.
- ▶ Rural communities face common challenges of depopulation, an ageing population, and limited farm profitability. Many residents seek additional income through forestry, nature-based tourism, or by commuting to nearby urban centres, such as Postojna or Ljubljana. Increasing eco- and

wildlife tourism, including bear-watching and the Pivka intermittent lakes, provides diversification opportunities.

- The region is part of the Dinaric large carnivore range, where coexistence measures and participatory governance have been promoted through EU LIFE projects (e.g. LIFE SLOWOLF, LIFE DINALP BEAR, LIFE WILD WOLF, LIFE WOLFALPS EU, LIFE VARNA PAŠA, LIFE Lynx) and Interreg projects (CARNIVORA DINARICA) in collaboration mainly with the University of Ljubljana, Slovenia Forest Service, Chamber of Agriculture and Forestry of Slovenia, and local municipalities. Responsible practices in large carnivore-human coexistence are recognised and promoted through a Bear-Friendly Label awarded by the University of Ljubljana.



Figure 3: Livestock guarding dogs guard goats and sheep against attacks by wolves, bears, jackals and lynx on a pasture fenced with an electric fence (Photo credit: Aleksandra Majić Skrbinšek).

4 FARMING CONTEXT

Livestock systems consist mainly of extensive cattle and sheep grazing on open karst pastures, in forest clearings, and on higher plateaus such as the Javorniki and Snežnik plateaus. Local breeds of cattle and sheep, that are well adapted to the rugged conditions, are commonly used in the region. Farms are small and family-run, often combining livestock farming with forestry or other sources of off-farm

income. Seasonal grazing on communal mountain pastures is still practiced in the Snežnik and Javorniki mountain ranges, although herd sizes are usually small (10–40 cattle, 30–200 sheep).

The use of livestock guarding dogs, electric fencing, and night enclosures has increased in recent years, due to support from LIFE projects and advisory services, as well as some systemic changes to subsidy systems. Best practice demonstration farms in Pivka and Ilirska Bistrica now showcase preventive measures and practices that promote coexistence. However, several challenges persist: high maintenance costs and limited labour availability, wolf and bear predation on unguarded livestock, bureaucratic delays in damage compensation procedures, abandonment of marginal pastures, accelerating reforestation, and, increasingly, also tension between livestock protection and tourism in open landscapes.

Main challenges:

- ▶ Ageing farming population and limited generational renewal.
- ▶ Economic dependence on subsidies (CAP, Natura 2000 payments).
- ▶ Lack of cooperation among smallholders.
- ▶ Extreme weather patterns caused by climate change.



Figure 4: A flock of sheep in a forested pasture (Photo credit: Anja Pekolj).

5 LOCAL CONFLICT ASSOCIATED WITH LARGE CARNIVORES

Number of attacks / damage cases: An average of 123 per year from 2021 to 2024.

The information presented in this section is based on data provided by the Slovenia Forest Service, which is responsible for verifying and assessing wildlife-related damage claims. The Notranjska study area represents one of Slovenia's hotspots of human–carnivore conflict, reflecting both high densities of large carnivores and extensive livestock production.

Between 2021 and 2024, the municipalities of Pivka, Postojna, and Ilirska Bistrica recorded 492 verified damage events, attributed primarily to wolves and brown bears. The majority of incidents involved small ruminants (142 cases) and cattle (118), while beekeeping (40) and fruit orchards (88) were also significantly affected. Damage to fodder (40) and other types of property (41) occurred less frequently.

During the same period, the total economic loss across the three municipalities amounted to approximately €313,000. The year 2022 saw the highest recorded damage (around €103,000), corresponding with a peak in livestock predation. The largest share of losses was associated with cattle (€103,000) and small ruminants (€89,000), followed by fodder and fruit crops. These figures highlight the ongoing economic pressure faced by farmers in the region and underline the importance of targeted preventive measures and coordinated management between agricultural and environmental sectors.

Social conflict:

Farmers often express frustration with the administrative complexity and limited financial support for preventive measures. Diverging viewpoints persist between farmers, who generally advocate for stricter control of large carnivore populations, and conservation organisations, which promote non-lethal coexistence strategies. The latter have challenged government decisions to cull large carnivores in court on several occasions and with varying degrees of success.

Despite the progress achieved through measures implemented through projects and government action, social tensions remain visible, particularly following wolf attacks, bear sightings near villages, or during periods preceding political elections, when the issue can become highly polarised. Overall, public attitudes reflect a dual position: strong support for the long-term conservation of large carnivores, coupled with the expectation that the government will regulate their numbers through selective culling to prevent damage and maintain coexistence.

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ZGS – Zavod za gozdove Slovenije / Slovenia Forest Service: <https://www.zgs.si/> and direct contact