



PROVINCIA
AUTONOMA
DI TRENTO

TRENTINO

LARGE CARNIVORES REPORT 2025

grandicarnivori.provincia.tn.it





*In memory of Francesco Borzaga, a
pioneer of bear conservation in the Alps*



AUTONOMOUS PROVINCE OF TRENTO
WILDLIFE DEPARTMENT
Large Carnivores Division
FORESTRY DEPARTMENT

LARGE CARNIVORES REPORT 2025



grandicarnivori.provincia.tn.it
grandicarnivori@provincia.tn.it

Supervision

Alessandro Brugnoli - Dirigente Servizio Faunistico PAT

Coordination

Claudio Groff - Coordinatore Settore Grandi carnivori PAT

Edited by

Fabio Angeli

Natalia Bragalanti

Claudio Groff

Valentina Oberosler

Paolo Zanghellini

Matteo Zeni

With the contribution of

Trento Science Museum (MUSE), Fondazione Edmund Mach (FEM), Parco naturale Paneveggio Pale di San Martino (PNPPSM), Parco naturale Adamello Brenta (PNAB), Parco nazionale dello Stelvio (PNS), Associazione Cacciatori Trentini (ACT), Istituto Superiore per la Ricerca Ambientale (ISPRA) and APT/MUSE volunteer groups.

Citations

The graphs, maps and all data contained in this report may be quoted, making reference to:

“Groff C., Angeli F., Bragalanti N., Oberosler V., Zanghellini P., Zeni M. (editors), 2025. 2025 Large Carnivores Report - Autonomous Province of Trento’s Wildlife Department”.

Cover page

Photo: Brown bear captured by camera trap at a pond in western Trentino - F. Ghisu and F. Bergamaschi, APT Wildlife Department archives

Back cover

Adamello-Presanella mountains - C. Groff, APT Wildlife Department archives

Photos without references

APT Wildlife Department archives

Layout and graphic design

APT Large Carnivores Division - T. Marcolla, APT Forestry Department

1,000 copies printed

Print centre of the Autonomous Province of Trento, July 2026

Digital version available at: <https://grandicarnivori.provincia.tn.it/Rapporto-Orso-e-grandi-carnivori/>

CONTENTS

- 1. Monitoring** p. 5
 - 1.1 The Brown Bear p. 5
 - 1.2 The Wolf p. 18
 - 1.3 The Linx p. 28
 - 1.4 The Golden Jackal p. 28
- 2. Damage compensation and prevention** p. 32
- 3. Management of emergencies** p. 52
- 4. Communication** p. 58
- 5. Training** p. 62
- 6. National and international networking** p. 63
- 7. Summary** p. 65

ACKNOWLEDGEMENTS

The information provided in this report is the fruit of contributions from **many people**, to whom we express our most heartfelt **thanks**: the forestry staff of Trentino forestry service, the Agenzia Provinciale delle Foreste Demaniali (APROFOD) and the Sustainable Development and Protected Areas Department, personnel of the parks, forest wardens, Associazione Cacciatori Trentini (ACT) personnel, hunters and volunteers.

Our special thanks go to **Giulia Bombieri** from MUSE and **Enrico Ferraro** from ACT for their important support in collecting and managing the data relating to monitoring, and to **Marco Salvatori** from MUSE and **Luca Pedrotti** from PNS for the bear population estimates.

1. MONITORING

1.1 The Brown Bear

Monitoring of the brown bear has been carried out continuously by the Autonomous Province of Trento (APT) since **the 1970s**. Over time, traditional survey techniques in the field have been supplemented by **radiotelemetry** (a method first used in Eurasia in 1976 and evolving over time thanks to GPS instrumentation), automatic video checks by remote stations, **camera traps** (Photo 1) and lastly, since 2002, by **genetic monitoring**.

Since the 1970s, a group of volunteers has remained continuously active (now entitled “**Volunteer group for the monitoring of large carnivores**” coordinated by MUSE and APT – see Box 2). Established to support the monitoring of the then relict population of **bears native to the Alps**, it gradually developed following the progressive appearance of other large carnivores in the provincial territory, represented, in chronological order, by the **lynx** (since the 1980s), the **wolf** (since 2010) and the **golden jackal** (since 2012).



Photo 1 - Brown bear captured by a camera trap in the Brenta Dolomites. (APT Wildlife Dept. archives)

Definitions

- “**Cubs**”: bears aged between 0 and 1;
- “**Young bears**”: males up to the age of 4 and females up to the age of 3;

- “**Adults**”: males aged 4 and over, and females aged 3 and over, considered to be sexually mature and capable of breeding;
- “**Detected bears**”: bears whose presence has been ascertained during the year, either genetically or on the basis of unequivocal information (associated with radiotelemetry for example) and repeated observations;
- “**Roaming**”: movement outside western Trentino, by bears born in this area, without them reaching the territory habitually frequented by bears belonging to the Dinaric-Balkan population;
- “**Emigration**”: abandonment of the population present in the province by bears reaching the territory habitually frequented by bears belonging to the Dinaric-Balkan population;
- “**Return**”: return to western Trentino by roaming or emigrating bears;
- “**Immigration**”: arrival of bears from the Dinaric-Balkan bear population in the territory used by bears in western Trentino in a stable manner.



Photo 2 - Attracted by scent bait, a young bear explores the barbed wire perimeter of a “hair trap” for systematic monitoring in 2025. (V. Oberosler - APT Wildlife Department archives)

Genetic monitoring

Genetic monitoring is based on the collection of organic samples (hairs, excrement, urine, saliva and tissues) and takes place using two methods, commonly described as **systematic** monitoring, based on the use of traps with scent bait, designed to "capture" hairs using barbed wire (Photo 2), and **opportunistic** monitoring, based on the collection of organic samples found in the area during routine activities, when **ascertaining damage** (Photo 3) and by checking **rub trees** (Photo 4).

In **2025** genetic monitoring was carried out for the **23rd year**, coordinated by **APT's Wildlife Department - Large Carnivores Section** and in cooperation with the **Forestry Department, APROFOD,**



Photo 3 - Tufts of hairs on a fence climbed over by a bear. (M. Zeni - APT Wildlife Department archives)

the **Sustainable Development and Protected Areas Department, FEM, ISPRA, PNAB, PNS, MUSE, ACT, forest wardens and volunteers.** Genetic testing was carried out by **FEM's Conservation Genetics Research Unit**, in conjunction with ISPRA's laboratories.

2025 saw the adoption of both **opportunistic monitoring** (carried out since 2002, and **systematic/intensive monitoring** (carried out every two years since 2019).

Other data and info. were kindly provided by the **Lombardia region, Autonomous Province of Bol-**



Photo 4 - An adult bear sniffing a rub tree. (M. Zeni - APT Wildlife Department archives)

zano, Friuli-Venezia Giulia, Veneto and Piemonte regions, the Carabinieri Unit of **Val Grande National Park, Land Tirolo-Austria** (Amt der Tiroler Landesregierung) and **Bavaria** (Bayerisches Landesamt für Umwelt). Our **heartfelt thanks** go to all these organisations.

All the data collected are processed on an annual basis, with reference to the calendar year (1/1 - 31/12), which effectively coincides with the "biological year" of the bear. It is implicit that the monitoring techniques cited do not guarantee that all the bears present in the area will be detected. However, the application of statistical methods makes it possible to provide the **population estimate**, with related confidence intervals, subsequently presented in the report.

In 2025, monitoring made it possible to collect **1,096 organic samples** attributable to bears in the province, of which **767** were **analysed**. Of these, **523** (including 39 collected outside the province) were used for **population estimates**, as they allowed identification of the individual. Processing of the **data** collected in **2025** has provided the information given subsequently for the population as regards **births, deaths, size, structure, trends, distribution and roaming.**

Box 1 - Systematic monitoring of large mammals with camera traps – update in the eleventh year of sampling

By Marco Salvatori^{1,2}, Giulia Bombieri¹, Filippo Di Paolo¹, Isotta Zanettovich¹, Francesco Rovero^{1,2} (¹ MUSE; ² University of Florence)

Since 2015, MUSE has systematically studied the wild mammal community using **camera traps**, in cooperation with the University of Florence, APT's Wildlife Department and the Adamello Brenta Nature Park. The camera traps are positioned at **60 sites** that have **not changed over the years**, situated in a **220 km²** area in the southern part of the **Brenta mountains** and the neighbouring **Paganella-Gazza** massif, remaining operational for around **35 days between June and August** each year. The project's goals include determining **spatial and temporal changes** in the **medium and large mammal** community, understanding how they react to the extensive and widespread **presence of humans** in natural habitats and the protected area, and comprehending trends in relation to the use of the area by these species over the course of the years.



The data regarding bears shows a slight increase compared to 2024, in terms of both the number of events involving passage, and the number of sites frequented, going from the 31 sites frequented in 2024 to 35



sites in 2025. However, in neither case does this represent the maximum number recorded, reached respectively in 2022 (4.8 events per 100 days) and 2023 (37 sites frequented out of a total of 60; see Figure 1, left-hand panel).

As regards **wolves**, there was also a **further slight increase** in both the number of sites (25) and passage compared to the previous year (see Figure 1, right-hand panel). The map of passage sites confirms the presence of **at least two packs** in the area monitored. One group (with a maximum of three adults) gravitated mainly around the Paganella-Gazza massif and the eastern Brenta mountains. The third case of breeding was also confirmed for this pack, thanks to detection of the nursing female (recognisable by the colour of her markedly reddish coat) at three at least of the sites monitored on the Paganella-Gazza massif and the western slopes of Lake Molveno at the end of June 2025. A second group, undoubtedly separate, gravitated around the Manez and Algone valleys. This was recognisable due to the fact that the breeding male has part of his tail and right hind paw missing. On the other hand, it is not possible to attribute passages

through the Val d'Ambiez and Stenico area with certainty, also due to the lack of further data and genetic traces. In 2025 **no events**

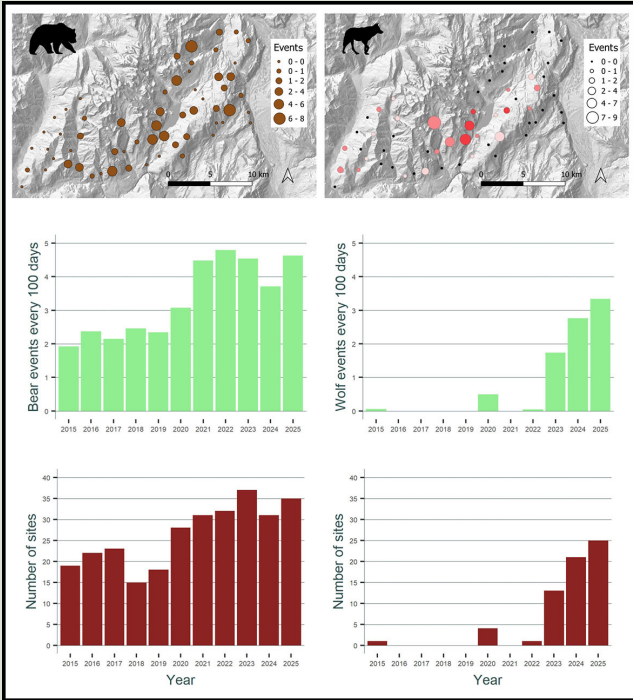
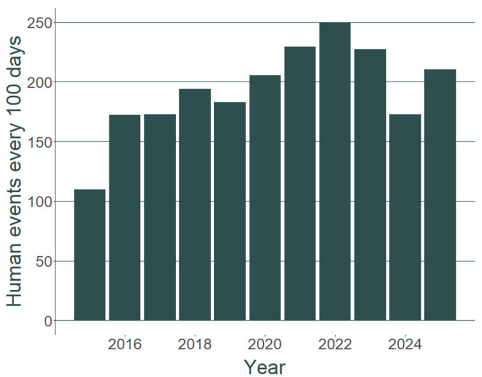


Figure 1. The two panels above show the maps of events involving the passage of bears (on the left) and wolves (on the right) in the study area in western Trentino based on the 2025 summer sampling programme. The size of the circles on the map is proportional to the number of events, whereas the colour intensity (for wolves alone) is proportional to the maximum number of wolves recorded per event at each site. The green bar chart shows the number of events (in this case normalised for every 100 days of sampling) recorded for each species in each year of the project, begun in 2015. Likewise, the red bar chart shows the number of sites where each species was recorded in the same period.

Figure 2 - Bar chart showing the number of events (normalised for every 100 days of sampling) recorded for human beings, excluding vehicles, for each year of the project, begun in 2015.

involving passage by the golden jackal were recorded. Human passage in the study area in western Trentino was **higher than in 2024**, with **figures similar to those recorded in 2020** (Figure 2).

In autumn 2025, sampling of the mammal community in **eastern Trentino was not repeated.** To conclude, we thank all those contributing to activities in the field: the staff of the Adamello-Brenta Nature Park, particularly Michele Zeni, the staff of Vezzano forestry station, particularly Yuri Valler, and Leander Mlgg, intern at the University of Vienna and MUSE.

Box 2 - Support for the monitoring of large carnivores by volunteers in 2025.

By the MUSE-APT Large Carnivores Monitoring Volunteer Group

The Large Carnivores Monitoring Volunteer Group, currently working with MUSE in Trento and APT's Wildlife Department, **has been operational since the 1970s** and still continues its activities today (for further background, see page 16 of the 2022 Large Carnivores Report). In 2025 the volunteers again dedicated many hours to **activities in the field**, working with commitment and enthusiasm and gathering over **400 reports**. The data obtained by the group has been particularly important in relation to **breeding** by the bear, wolf and golden jackal.

As far as **bears** are concerned, in the period going from the beginning of April to mid-July 2025 there were numerous outings dedicated to direct observation from a substantial distance. On 10 occasions bears were observed, for a total of 15 adults and 4 cubs (not necessarily different individuals). The group's observations also made it possible to recognise some animals thanks to the presence of ear tags or other identifying marks, and to record the dynamics in terms of use of the area by some individuals on a seasonal basis.

As regards **wolves**, thanks to the use of camera traps, there were **14 reports of new litters**, along with some particularly significant observations. These include the presence of a male wolf in the Val Algone/Val Manez pack with a serious impairment (amputation of right hind paw), who nevertheless had the role of dominant male within the pack.

Further reports of interest concerned the use of the territory by neighbouring packs in the southern Brenta area, and documentation of interaction dynamics helping to understand the way the area is used by different competing packs. Monitoring activities also made it possible to document the formation of **new packs** in areas where wolves were absent or present to a limited extent in recent years. One emblematic case is the Bondone/Stivo area, where no litters were recorded in 2024, while the most recent observations showed the creation of a pack and a litter with 2 cubs. In parallel, in some areas it was possible to document the **turnover** of dominant individuals, as in the case of Val di Fiemme, providing useful information for understanding the social and territorial dynamics underway. As regards the **golden jackal**, thanks to the contribution of some of the group's members, it was possible to confirm the presence of the species in the areas already noted in 2024, and to document the occasional presence of solitary individuals in new areas, demonstrating the process of expansion of the species towards new territories.

These facts and other information acquired thanks to the participation of volunteers, make a fundamental contribution towards increasing knowledge of large carnivores within the province.

Box 3 - Monitoring of the genetic variability of the bear population; update until 2025

By the Conservation Genetics Research Unit at the Fondazione Edmund Mach

Genetic monitoring of the bear population in 2025 concluded by guaranteeing updating of the national database of individual genotypes, useful both for estimating the number of bears and for eventual forensic investigation.

Furthermore, on the basis of live bears present in 2025, it was possible to calculate **some indices of genetic variability** (expected heterozygosity, allelic richness and inbreeding). These parameters contribute to increasing knowledge of the health of the bear population. For example, isolation of the population and inbreeding are factors

that led to a **decrease in genetic variability in the first few years** following reintroduction, followed by a **slowing down of the decreasing trend**. Hence, the progress of all these parameters is constantly monitored to provide scientific support for decision-making about management.

In 2025, the figures again showed a **slight decrease** compared to those recorded in the last five years (**expected heterozygosity for 2025: 0.646; allelic richness for 2025: 3.76**). The **inbreeding index** is following the expected trend, namely with a **progressive increase (- 0.044)**, remaining however at **non-critical level**.



Figure 1: FEM's Animal, Environmental and Antique DNA platform laboratories are highly specialised in the analysis of 'non-invasive' samples such as hair and faeces. (Photo: FEM).

Births

In **2025** it was **estimated** there were at least **13 new litters**, with a total of **25 cubs**. This estimate was made based on direct observation, images of females with cubs recorded during the year and genetic evidence.

Graph 1 shows the **number of litters** and cubs estimated to be present **from 2002 to 2025**.

Deaths

In **2025**, the **deaths of 4 bears** were recorded. The relative data for bears is given below, supported by the results of toxicological tests and veterinary autopsies by the Istituto Zooprofilattico Sperimentale delle Venezie, **when available** at the time this report was drawn up.

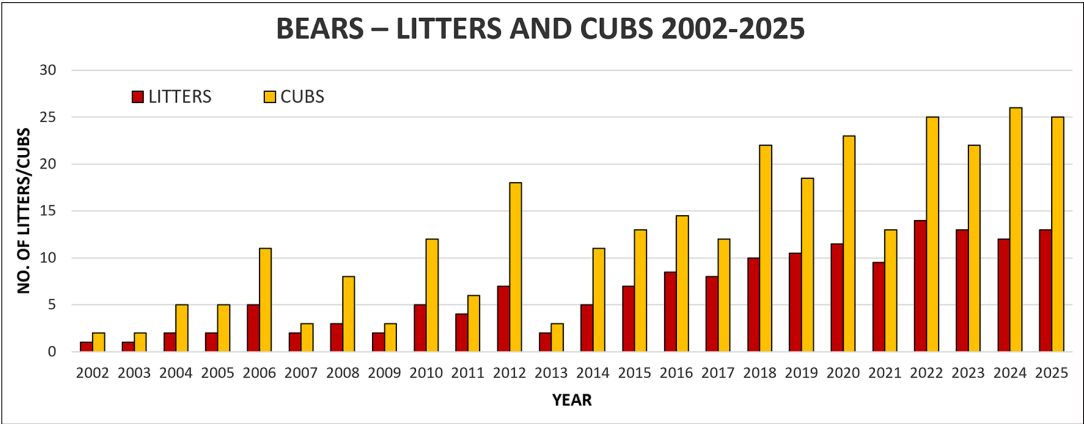
- **15 March 2025**, between Crocifisso and Prà del Conz in the municipality of **Caldes**, an adult female bear subsequently identified as **F32**; cause of death: **poaching** (shot with firearm);
- **8 June 2025**, at Due Laghi in the municipality of **Vallelaghi**, a female cub born during the year (daughter of F7, a female bear fitted with a radio collar), subsequently identified as **F103**; cause of death: **car accident** (Photo 5);

- **18 September 2025**, again between Crocifisso and Prà del Conz in the municipality of **Caldes**, an adult female bear subsequently identified as **F104**; cause of death: **poaching** (shot with firearm);
- **25 September 2025**, in a playground in the municipality of **Fondo**, remains (skin) of a young bear subsequently identified as **M119**; cause of death: **unknown (probably poaching)**.



Photo 5 - F103, a female cub born during the year, hit and killed by a vehicle on 8 June 2025. (R. Monte – APT Wildlife Department archives)

Graph 1



Size and density of the population

Since 2025, it has been possible to draw up estimates of the **size** and **density of the population** by applying **spatially explicit capture-recapture models (SECR)**, using all data available for the 2015-2025 period.

This represents a **partial innovation** compared to the models used to date (CMR – non-spatial genetic **capture-marking-recapture**) to obtain the population estimates published in previous reports. This has been made necessary by the **territorial expansion** of the bear population recorded in the last few years.

The method indeed makes it possible to estimate the size and density of the bear population on the basis of the **distribution area** considered, and to provide more accurate estimates even when the density is lower (in our case in **more peripheral areas** also lying outside the confines of the province).

The administration also intends to use these models in the **future, in cooperation with neighbouring authorities**, to ensure that the progressive expansion (or reduction) in the distribution

of bears is **accurately described**.

In **2025**, the **estimated size of the bear population**, carried out in this way, was **118** (with a confidence interval - **C.I.** - of between **99** and **141**), thus referring to a **larger area than just western Trentino** and also including part of the provinces of **Brescia, Sondrio, Bolzano** and **Verona** (Figure 1). As usual, this **does not include cubs born during the year** (25, as reported above).

The estimate essentially corresponds with the **2023** figure, **updated** thanks to the new models applied and new data added in 2025, which stands at **112 bears** (C.I. between 97 and 130).

These figures suggest **substantial stability or a slight increase in the population in the last two years**.

The data cited above are compatible with those, again relating to 2023 (106 bears), given in a **recent study** published last year in the scientific magazine **Biological Conservation** (*Reintroducing a large carnivore in a human-dominated landscape: dynamics of an isolated brown bear population over two decades post-reintroduction*). This too is based on the spatially explicit capture recapture model used in 2025.

It was also possible to estimate the **average po-**

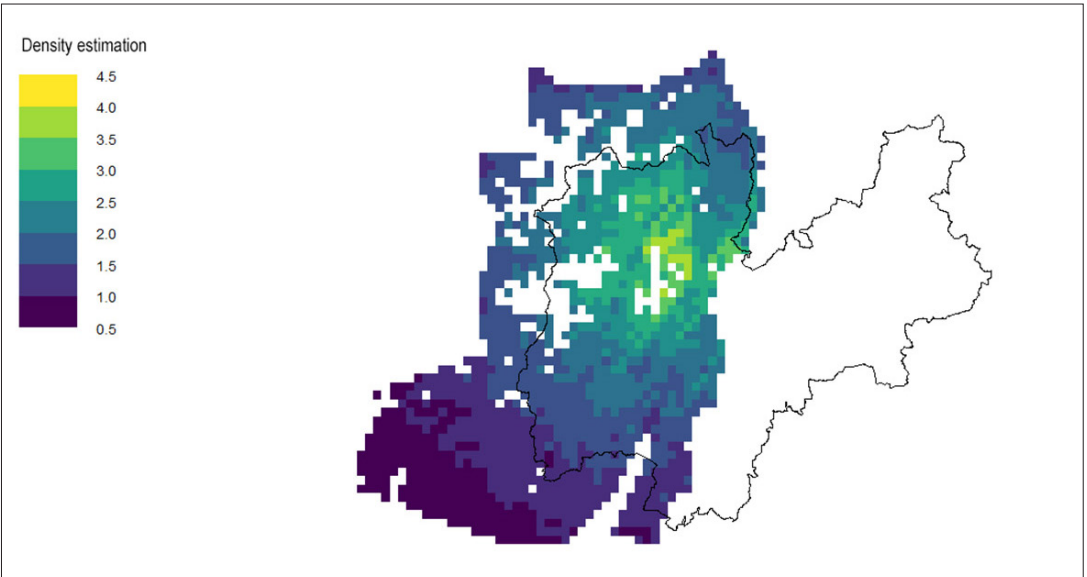


Figure 1 - Map of population density estimated using spatially explicit capture-marking-recapture models for 2025. The colour shading from dark blue to yellow shows increasing population density levels, while the black line shows the borders of the province of Trento.

pulation density, which in 2025 was **1.63 bears/100 km² in the area considered**. As stated, this also includes parts of the provinces of Bolzano and Verona and the Lombardia region (see Figure 1). The density of the population is not homogeneous throughout the area, but decreases progressively on moving away from the Brenta mountains and conterminous areas.

Trend

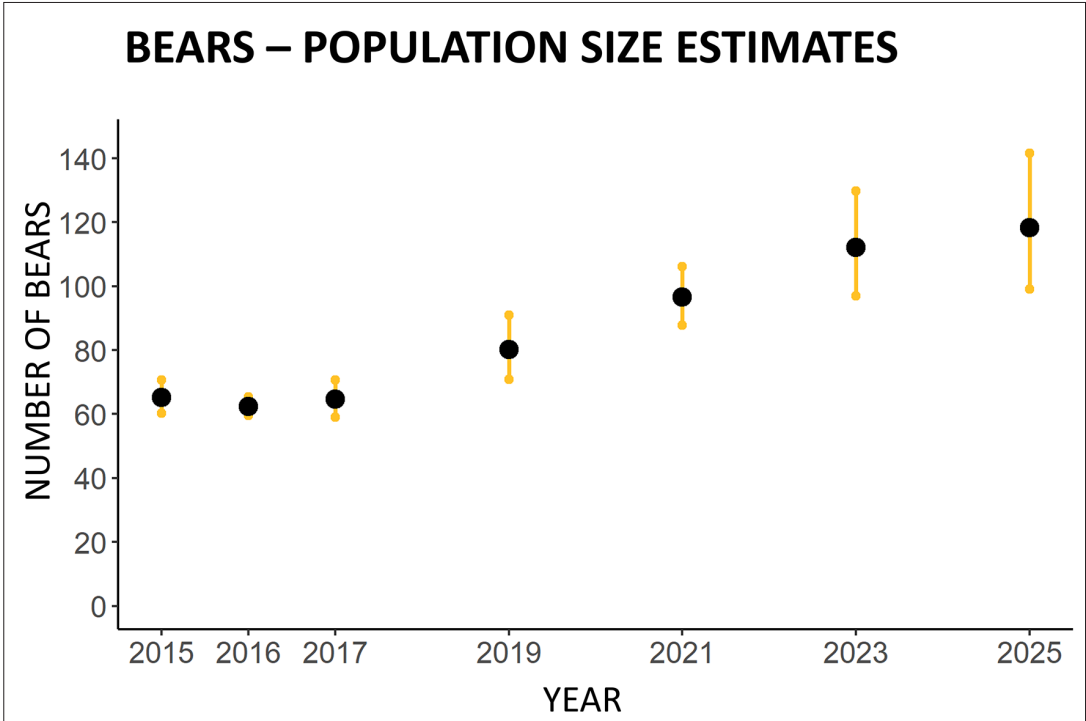
Graph 2 summarises the results of estimates made using **spatially explicit marking and recapture models** between 2015 and 2025 (average estimates and CIs). It shows a **trend for growth** in the population **up to 2023**, with **substantial stability** or **slight growth** appearing to characterise the last **two years**. In this context, it should be recalled that the overall trend is clearer in the long-term and that direct com-

parison between different years is conditioned by heterogeneous nature of opportunistic monitoring.

It is important to underline that the **estimated figures cannot be accurately compared with those published in previous Large Carnivore Reports** (which have all been updated here), bearing in mind the slightly different method it has been decided to apply since 2023, following significant changes reported in the geographical distribution of bears in peripheral sections of the area.

Distribution

Signs of the presence of bears collected in the province of Trento during 2025 (**2,153** recorded, without considering those deriving from satellite monitoring of two bears) are shown in **Figure 2**. NB: the density of the dots does not correspond with the real density of bears, as opportunistic moni-



Graph 2 - Estimates of the size of the bear population (excluding cubs) using spatially explicit capture-recapture models (SECR). The black dots show the average estimates, while the orange bars and dots show the confidence interval with 95% probability.

ring can be influenced by different sampling levels in the different areas.

Considering also the longest journeys made by young males, on the basis of the data obtained, in 2025 the **bear population in the central Alps** was distributed over **a theoretical area of 19,375 km²** (Figure 2).

In 2025, at the extremes of the polygon regarding male bears (Figure 3), there were reports from the Val Grande in Piemonte to the west, and one bear in the area between Trentino and the Belluno area to the east. **The area occupied by the females in a stable manner** remains considerably smaller (2,805 km²), but has increased compared to 2023 (+26%).

In 2025, the data again confirms the trend for **slow but constant expansion of the area occupied by females** in the last few years (Graph 3). Specifically, use of practically the whole of western Trentino was confirmed in 2025, while the presence of a **female bear in Alto Adige - Südtirol**, in Val Martello – Martelltal also stands out.

The areas occupied were estimated using the **minimum convex polygon (MCP)** method, **applied to 100% of validated signs of presence**. This also leads to the inclusion of vast areas that are not actually frequented/used, especially within the macro-area including the movements of young males.

Figure 2

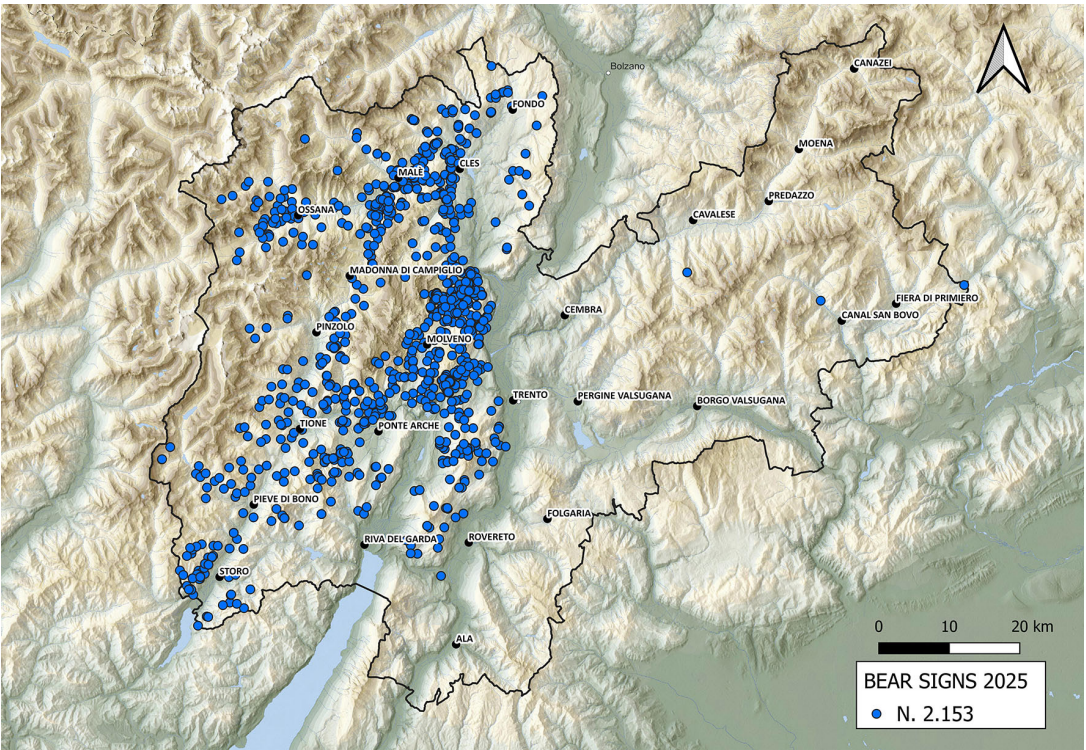


Figure 3

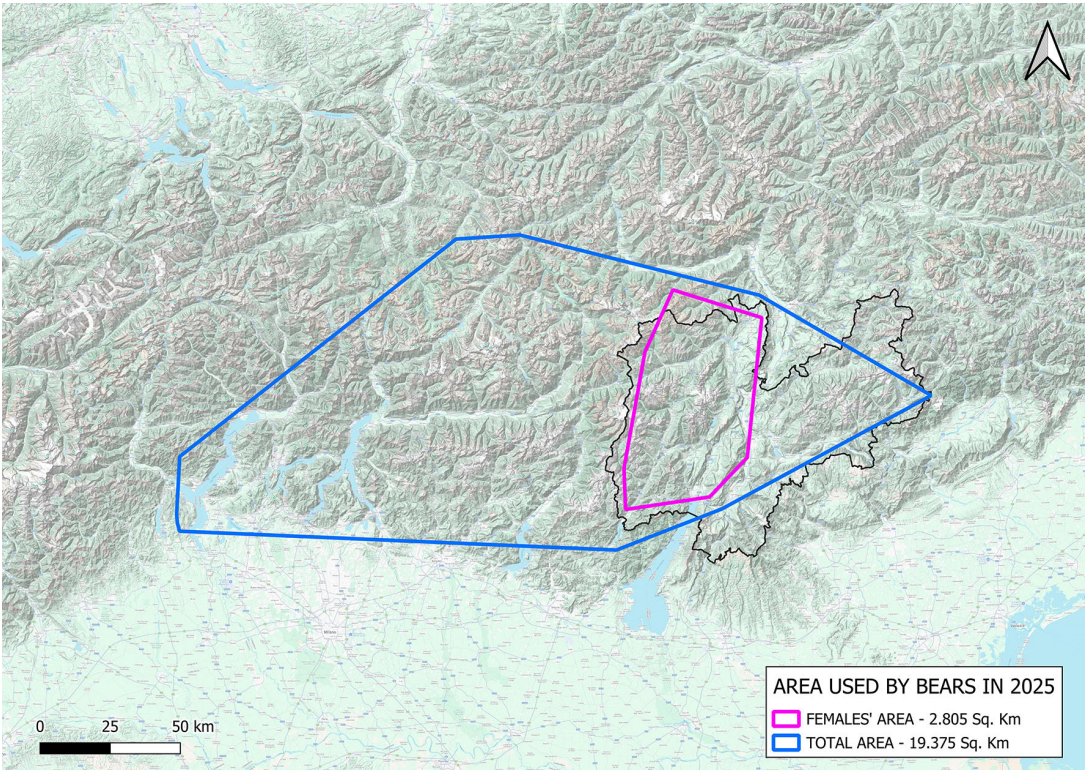
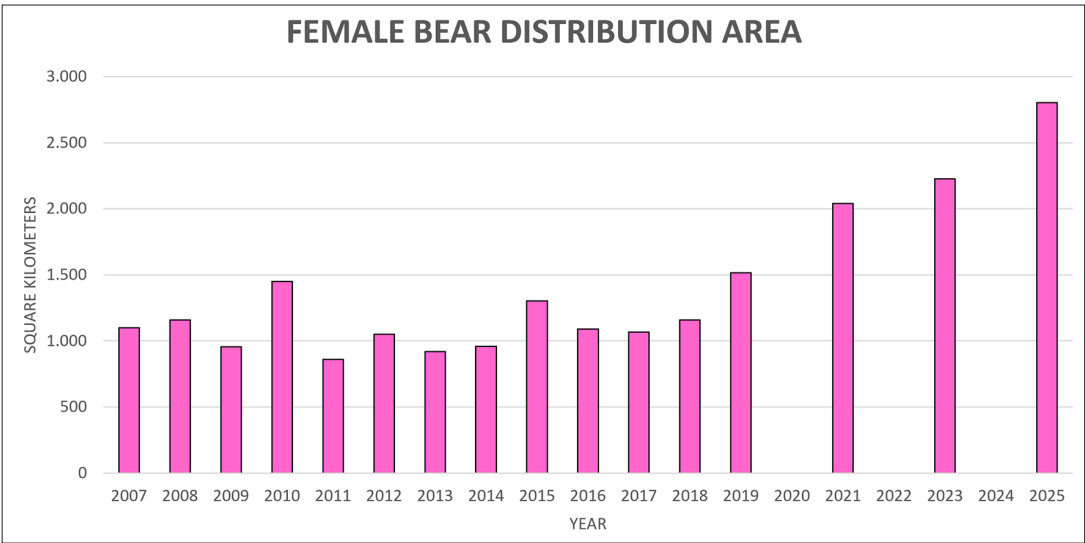


Grafico n. 3



Use of the space by bears with radio collars

In 2025, **two bears** were monitored using **satellite telemetry**, the female **F89**, around 7 years old, and the female **F7**, aged 15. Their home ranges, calculated using the minimum convex polygon (MCP) method, covering 238 and 78 km² respectively, are shown in Figure 4.

Roaming

In the **2005-2025** period it was possible to document **roaming** (namely bears leaving western Trentino, see definition on page 6) involving **70 bears (all males apart from one female)** (Figure 5). **15** of these (54%) **died or disappeared**, 21 (30%) **returned**, 1 (1.5%) **emigrated**, 1 (1.5%) is in captivity, and 9 (13%) are still roaming.

Figure 4

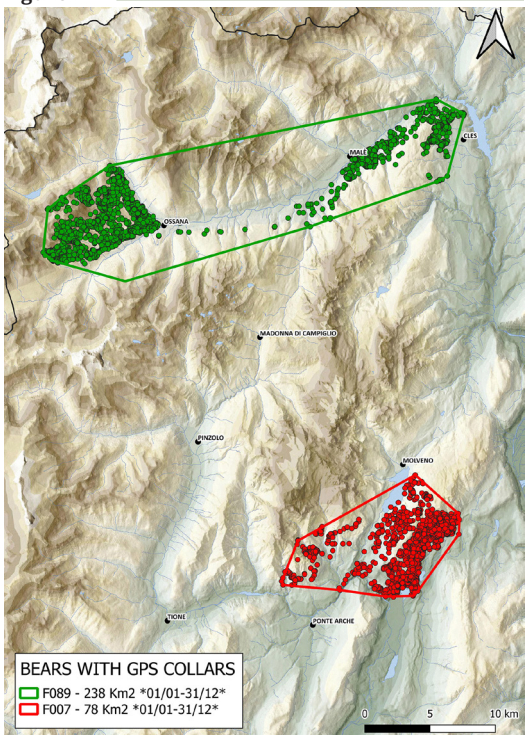
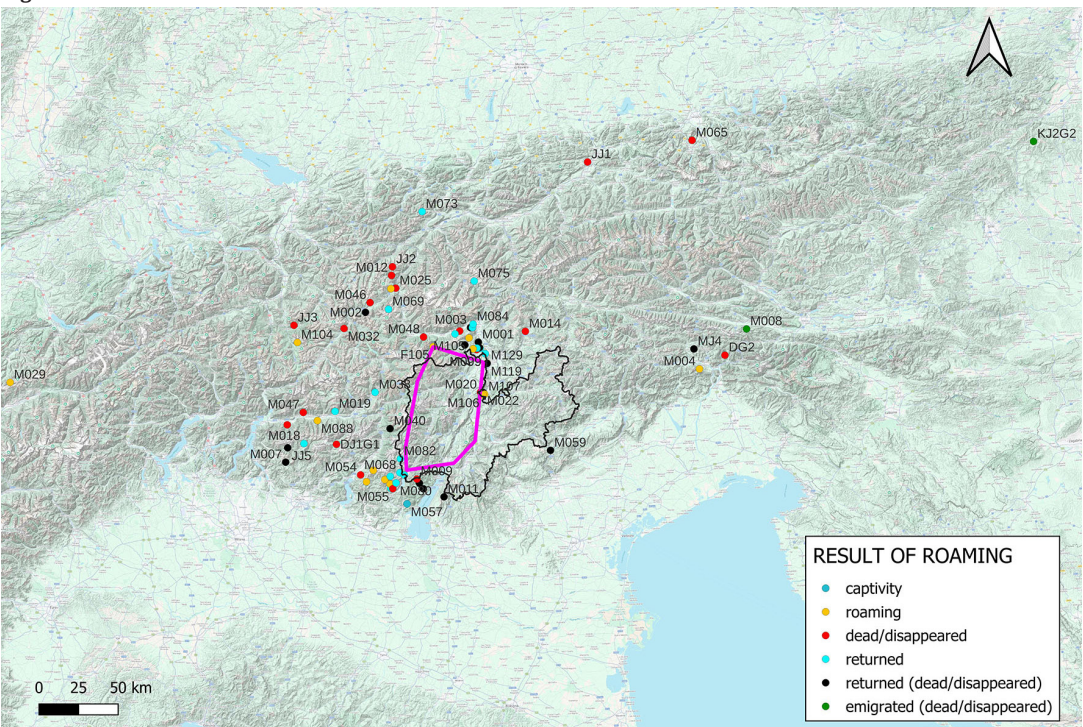


Figure 5



1.2 The Wolf

Monitoring of the wolf **began** with the **natural return of the first animals** recorded in the province in 2010, although the remains of a dead wolf were previously found in 2008 (see the 2009 Report, pages 57-60). The species had **disappeared** from Trentino around the **middle of the 19th century**.

From the beginning, **genetic monitoring**, traditional **surveys in the field, transects** and **camera traps** were also used for the wolf (Photos 6 and 8). As is well-known, the **return of wolves to Trentino is part of a phenomenon on a much larger scale** than the provincial territory. For at least four decades the wolf has been **expanding throughout Europe**. All the wolf populations present in continental Europe are now effectively linked, making up a single **European metapopulation of around 23,000 animals**, without considering Russia and Belarus (Source: **L.C.I.E.**, Large Carnivore Initiative for Europe 2024 - Large carnivore distribution maps and population updates 2017 – 2022/23). After the first standardised sampling of wolves at national level in 2020-2021, a new survey was carried out in the **Italian Alps** in winter **2023-2024**, in line with the methods in the Guidelines and Protocols for the monitoring of wolves in Italy. The survey saw the participation of all the **Regions and**

Autonomous Provinces in the alpine area, including the **Autonomous Province of Trento**, which in its turn involved the extensive **network of organisations** concerned by the presence of the species. The new **estimate** of the overall wolf population in Italian alpine regions was **1,124 animals**. As it is impossible to count every single individual, the estimate is accompanied by a Credibility Interval (CI) of 95%, including between 980 and 1,316 animals.

By comparing the estimate for the 2020-2021 period, it is thus possible to estimate the annual growth in the population, estimated to be 1.06 (+6% a year) (1.00 – 1.12). The report is available via this link: <https://www.areeprotettealpimarittime.it/media/10478285.pdf>.

Downgrading of the wolf at regulatory level

During **2025**, the **level of protection for wolves was lowered** within Europe from a “specially protected” species to a “protected” species (with **EU Directive 2025/1237 of 17 June 2025**).

To have concrete effects on the management of wolves in EU member states, the downgrading must be implemented by them. **Trentino** implemented the downgrading of the wolf by updating



Photo 6 - Young wolves captured by a camera trap in 2025 at a pond in the Lagorai mountains (G. Listorti – APT Wildlife Department archives)

provincial law no. 9/18 with provincial law no. 5 of 1 August 2025. At national level, implementation took place with the **Decree of the Ministry of the Environment of 6 December 2025**, amending **DPR no. 357/97**.

Essentially, implementation of the downgrading means that **culling is no longer subject to the system of exemptions** from special protection, but may also be authorised without specific justification (e.g. damage, danger etc.), also within the framework of **control plans** or even **hunting plans** (possibly including the species among those that may be hunted). **Authorisation for lethal removal** is now the responsibility of the **Regions** (also those with ordinary statutes) and no longer falls under the jurisdiction of the Ministry of Environment.

In any case, culling must ensure that wolf populations continue to maintain a “**favourable conservation status**”.

Genetic and camera trap monitoring

Intensive genetic monitoring activities at periodic intervals are also provided for in relation to the wolf, bearing in mind the guidelines issued by **ISPRA** for the **monitoring of the species throughout the Alps, both within and outside Italy, in the medium and long-term**.

The range of information made available by **Large Carnivores Monitoring Volunteer Group** was particularly important for **monitoring in Trentino in 2025**, above all in relation to monitoring with camera traps (Photos 6 and 7). As regards this, see Box 2 on page 9. **Genetic samples** were collected in an opportunistic manner by the staff of the forestry service, the Associazione Cacciatori Trentini, forest wardens and others. In addition to excrement found by chance and saliva sampled at wild prey bite sites, as usual importance was given to the analysis of samples found at the sites of damage (saliva from bite sites, excrement, hairs and other sources), also for the purpose of



Photo 7 - Wolf captured by a camera trap on Monte Bondone. (F. Romito and M. Vettorazzi - APT Wildlife Department archives)

identifying cases of serial predation by certain individuals, when possible.

Population, breeding, mortality rates, distribution and trends

In 2025, **2,521 data reports** relating to categories **C1 and C2** (data defined respectively as “irrefutable” and “confirmed by experts”, on the basis of Kora-CH criteria), such as sightings, photographs, prey, tracks, hairs, excrement, urine and damage, referring to the **wolf** were recorded in the province. Of these, **533** referred to organic samples, **349** of which were analysed by the Conservation Genetics Research Unit of **FEM**.

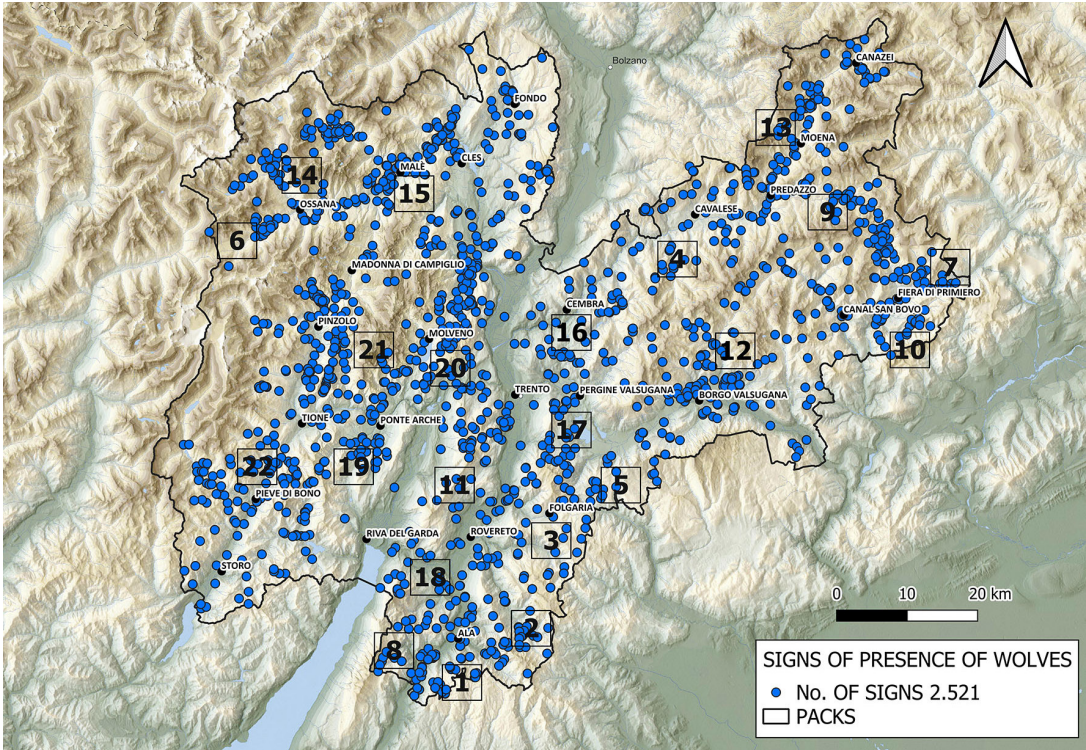
In **2025**, the overall data collected leads to **estimation** of a **minimum number of 22 packs** (or family groups) whose home ranges included the province of Trento, at least in part. The packs **identified** are listed in **Table 1**, with the **name** of the area identifying them, **the year the pack was first recorded**, breeding in 2025, if ascertained (20 cases this year) and the **maximum number of animals ascertained from the summer onwards**, when available.

Table 1 - Packs recorded in the Province of Trento in 2025

No.	NAME	YEAR FIRST RECORDED	BREEDING IN 2025	MAX. NO. OF ANIMALS 2025
1	LESSINIA	2013	SI	7
2	CAREGA	2016	SI	10
3	PASUBIO-FOLGARIA	2017	SI	5
4	VAL CADINO-VAL FLORIANA	2019	SI	11
5	VEZZENE	2019	SI	5
6	TONALE	2019	SI	7
7	AGORDINO-CEREDA	2019	SI	4
8	BALDO-NOVEZZA	2020	ND	4
9	PANEVEGGIO	2020	SI	7
10	VETTE FELTRINE	2020	ND	4
11	BONDONE-STIVO	2021	SI	4
12	CAMPELLE-CALAMENTO	2021	SI	10
13	LATEMAR	2021	SI	8
14	PEIO	2021	SI	6
15	PELLER-TOVEL-FOLGARIDA	2021	SI	6
16	PINÈ-CEMBRA	2021	SI	9
17	VIGOLANA-MARZOLA	2021	SI	10
18	BALDO NORD	2022	SI	4
19	BLEGGIO-LOMASO	2022	SI	7
20	PAGANELLA-MOLVENO	2023	SI	6
21	VAL ALGONE-VAL MANEZ	2023	SI	4
22	VAL BREGUZZO-VALDAONE	2023	SI	6

*NA = data not available

Figure 6

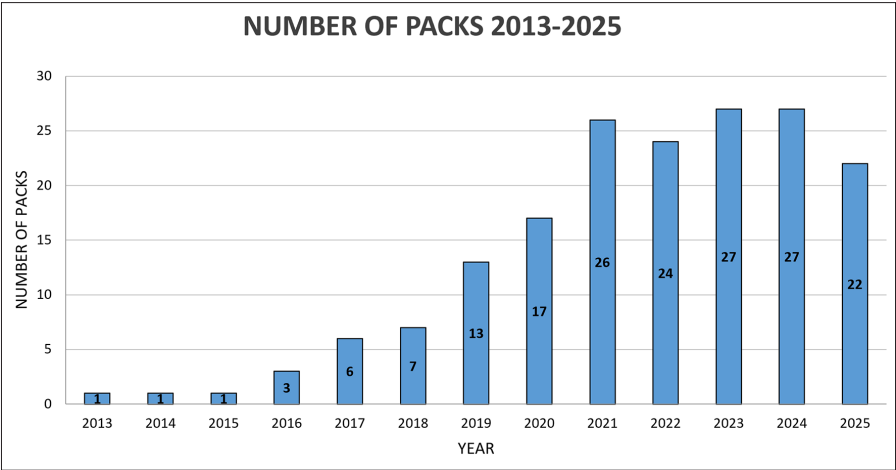


The data given above do **not** take into consideration **wolves that do not belong to packs**, namely **solitary animals**, usually roaming in search of new territories and partners.

The **geographical location of the packs**, generally to be considered **approximate**, is shown in Figure 6, together with the location of individual reports.

Graph 4 shows the **trend** for the number of packs recorded in the province of Trento since 2013, the year the first pack was formed in the province. The data for 2025 **would seem to suggest a fall in the population** after four years of fundamental stability (2021-2024). Four of the five packs not recorded in 2025 as compared to 2024 were in areas straddling the northern borders of the province.

Graph 4



During 2025, **two wolves fitted with radio collars** in **Lombardia** and **Veneto** respectively were also present within the territory of Trentino.

Boxes 4 and 5 summarise the main data recorded for the two animals and the related packs (nos. 6 and 7 in the map and graph above).

Box 4 - Ludovica: the first wolf captured in Stelvio National Park

*By Valerio Donini¹ – Matteo Nava² – Paola Antonini³ - Giulia Borsani¹
(¹ ERSAP – Stelvio National Park Management, ² University of Milan – Veterinary Medicine and Animal Science Department, ³ University of Siena – Life Science Department)*

The natural return of the wolf to the Alps has led to new ecological and social challenges for researchers, farmers and communities, making knowledge of the species a key element in effective coexistence. Understand-

ing behaviour and ecological dynamics, understood as the wolf's interaction with prey, its use of space and its effects on the ecosystem, allow both conflict with animal husbandry and perceptions linked to its presence to be dealt with in an informed manner. In this context, **satellite telemetry** represents a **fundamental** tool for bodies such as Stelvio National Park, allowing collection of **data regarding movement, use of the territory, activities** and diet using **GPS radio collars**. Within the park, captu-

res of wolves take place in the context of the WOLF-NEXT ministerial project involving all national parks, and the park project called “Trophic Cascades”, aimed at investigating the direct and indirect ecological effects of the wolf on the components of the alpine ecosystem.

On **1 April 2025**, after over **70 nights of attempts**, a **first female wolf** was captured, belonging to a **pack** at least partly **resident** within the protected area, known as the “Tonale Pack”. Its territory stretches between the Municipality of Ponte di Legno (BS) and the Municipality of Vermiglio (TN). It was formed in 2018 by a female coming from the upper Val di Non (replaced in autumn 2024) and a male of unknown origin, presumably from the Italian population. The animal captured was a **female** almost **three years old** weighing **28 kg**, then sedated and fitted with a GPS collar (Figure 1).



Figure 1: Ludovica during sedation, monitored by vets.

The capture operation took place over a period of around two hours, during which the animal was constantly monitored by veterinary staff. Once the procedure had concluded, the wolf, named Ludovica, was released. Subsequent monitoring confirmed her return to the pack after just two days. Genetic tests and the behaviour of the animal after release suggested that Ludovica had the role of helper, namely a **non-breeding**

animal participating actively in raising the cubs in the pack.

The GPS collar fitted was set to record her position every hour during the night and every four hours during the day, to offer a compromise between the duration of the battery and the precision of the data during more important transfers. **Monitoring** of the animal concluded on **28 September 2025**, when the collar stopped transmitting locations. There are many possible causes, from technical malfunctioning to events linked to man. Whatever the cause, it is certain that from that date on, no **further passage of the wolf** was recorded by camera traps present in the territory or in surrounding areas. Despite this, the data collected during the six months of monitoring have been particularly interesting, providing useful information about **spatial dynamics**, the use of the area by the pack and the **feeding ecology** of this species in an alpine setting.

Preliminary results

Over the course of six months’ monitoring, a total of around **2,700 GPS locations** were collected for Ludovica (Figure 2). The **average altitude** of the area frequented by the animal during the sampling period was 2,000 metres ASL, with a minimum average of 1,700 metres ASL in April and a maximum average of 2,200 in July. The **maximum altitude** recorded for her location was **2,850 metres ASL**.

On the basis of the linear distance between successive locations, the wolf covered a total of around **1,600 km**, corresponding with an **average of around 260 km a month**. The distance covered is a useful indication of the pace of daily activities, making it possible to identify the time bands characterised by greatest movement. In the case of Ludovica – and consequently the pack to which she belongs – analysis of the distances covered in terms of time bands showed a **marked tendency for nocturnal activity**, during

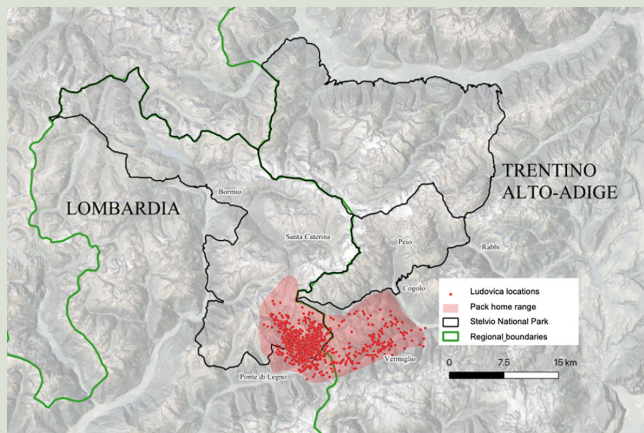


Figure 2: Ludovica's locations from 1 April 2025 to 28 September 2025. The red area shows the extent of the Tonale pack's territory, straddling Lombardy and Trentino-Alto Adige.

which the **most extensive movement was concentrated**, very probably linked to **exploration of the area and hunting activities** (Figure 3). It should be underlined that camera traps showed that Ludovica did not always move around with the whole pack, but **often explored the area alone or with some members of the pack**.

The pack's territory, estimated based on GPS

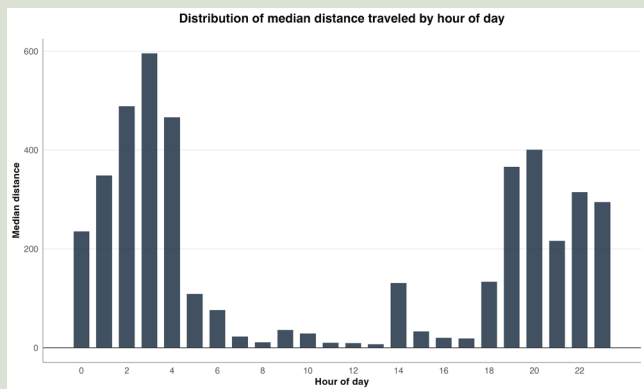


Figure 3: Average hourly distance in metres covered by Ludovica from 1 April 2025 to 28 September 2025. The distance was calculated as the line between two successive locations and does not consider the roughness of the terrain; it must therefore be considered an underestimate.

locations, covered a total of around **190 km²** (Figure 2), consistent with the data for other wolf packs in alpine contexts with a low density for the species.

It is however important to underline that the territory is not static, but rather varies on a seasonal basis. In Ludovica's case, for example, the extent of the estimated territory was **very varied**, going from a **minimum of around 43 km² in June to a maximum of about 153 km² in April** (Figure 4).

The variation observed in the home range mainly reflects the reproductive cycle of the species. During the **summer** (June-August) there is typically a **reduction in the area used**, associated with the **presence of cubs with a limited ability to move around** and with a **concentration of activity around rendezvous sites** (areas used by the pack to rest and take care of cubs in summer).

The increase in spring and autumn is in line with the energy requirements and mobility of the pack.

In terms of **feeding ecology**, monitoring of Ludovica made it possible to obtain significant information about the pack's diet. The high level of nocturnal location frequency was shown to be very effective for seeking carcasses and identifying clusters (groups of GPS locations close together spatially or in time). Identification of predation sites was more demanding during the ungula-

te birthing season, due to the small size of the prey, often completely consumed, leaving little evidence of predation. Over the course of 6 months' monitoring, carcasses belonging to all the species of ungulates available in the area were found (apart from the small colony of mouflon in Vermiglio and Val di Peio), in these percentages: ~ **65% red deer**, ~ **5% chamois**, ~**3% roe deer**, ~ **4% ibex** and ~ **23% livestock (sheep, goats and cattle)**. Domestic livestock (mainly sheep and goats) were mostly preyed on in July

and August, corresponding with a reduction in predation on wild ungulates.

Figure 4: (A) Monthly variation in the extent of Ludovica's home range during the sampling period (April- September 2025). (B) Cartographic representation of the monthly home range. The 95% home range area was estimated via Kernel Density Estimation (KDE) using the R package adeHabitatHR.

Satellite monitoring of di Ludovica confirmed the wolf's high level of ecological plasticity, namely the ability to adapt behaviour, use of the habitat and diet to alpine environmental conditions, highlighting use of the area in line with the biological cycle of the species, with marked nocturnal activity and a diet mainly based on wild ungulates. The experience has confirmed that **GPS telemetry is an effective tool for understanding and managing coexistence between wolves and human activities in the Alps**, providing useful data for preventing conflict and developing sustainable management strategies compatible with the alpine socioeconomic context.

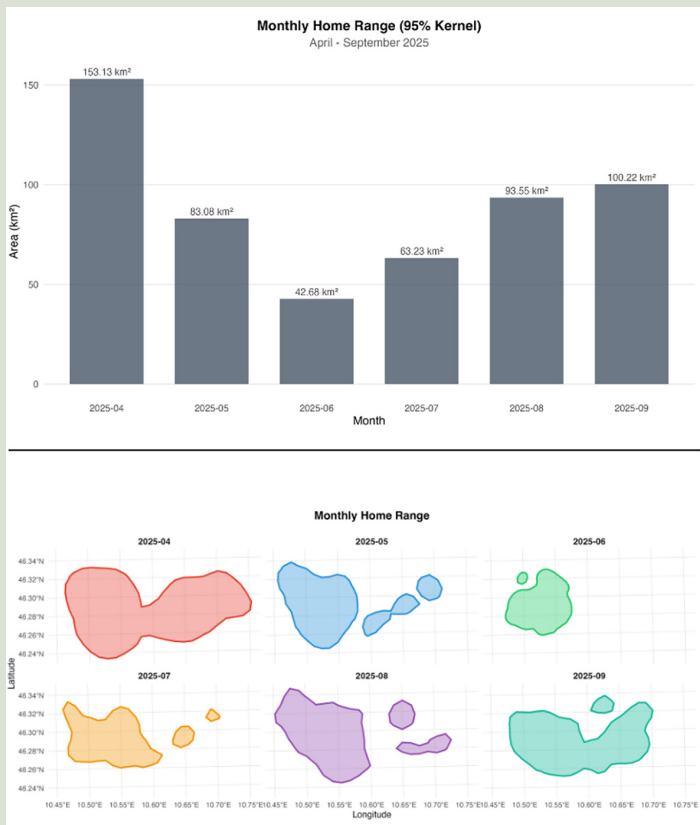


Figure 4: (A) Monthly variation in the extent of Ludovica's home range during the sampling period (April- September 2025). (B) Cartographic representation of the monthly home range. The 95% home range area was estimated via Kernel Density Estimation (KDE) using the R package adeHabitatHR

Box 5 - Monitoring of the female wolf WF2402 from the Agordino-Cereda pack

By the Veterinary Medicine Department of the University of Sassari

During 2025 and part of 2024, in the context of wolf monitoring activities carried out using satellite telemetry as part of the **Study of Prey–Predator Relationships in the Belluno Dolomites National Park (Belluno, Veneto)**, conducted in cooperation with the Belluno Dolomites National Park and the Department of Veterinary Medicine at the University of Sassari, there was documentation of sporadic **incursions into Trentino territory** by one of the animals monitored, a **female** with radio collar known as WF2402. The project aims to explore the ecological dynamics associated with the presence of wolves within the park, focusing particular attention on predator-prey relationships and the use of space.



Figure 1: Capture of WF2402

WF2402 stayed with her original pack until the end of December 2024, after which she showed a marked change in spatial behaviour, characterised by the onset of roaming. From this time, the animal began to explore a significantly larger area than the pack, alternating phases away from the pack with temporary returns to the area where she was born. This behaviour continued until the end of the monitoring period, in August 2025.

During the **roaming phase**, the home range occupied by WF2402 was **692.45 km²** (MCP 95%), with **average daily movement of 23.63 km/day** (IC 95% = 23.44–23.83 km/day), significantly larger than the size of the **pack's territory**, which in the 2024-2025 period was estimated to be around **103 km²** (MCP 95%). Her **movements** within the area occupied took place **mainly at nighttime**, while during the day the wolf tended to remain inactive for extended periods, generally remaining in inaccessible areas characterised by little disturbance from humans, presumably used as resting sites. **Frequent use** of both asphalted roads and dirt tracks was also observed, for the purpose of optimising movement within a very extensive area. The **maximum altitude** documented during the whole monitoring period was **2,770 m ASL**, demonstrating the ability of the species to also make use of areas at high altitude.

The monitored animal was captured in September 2024 and fitted with a GPS radio collar. She is a subordinate female, daughter of the dominant female wolf WF2202, monitored over the previous two years. The animal belongs to the pack settling in the area between Agordo (BL) and Val Canali (TN). Born during the 2023 breeding season, WF2402 was the only female cub in the litter to also stay with her original pack in the following breeding season (2024), taking on the role of helper. In this phase the wolf thus contributed to the activities of the pack by assisting the dominant couple with the care and protection of the cubs.

Detachment from the pack leading to WF2402's roaming phase was also confirmed by data from camera traps, which always showed the animal alone in the period consi-

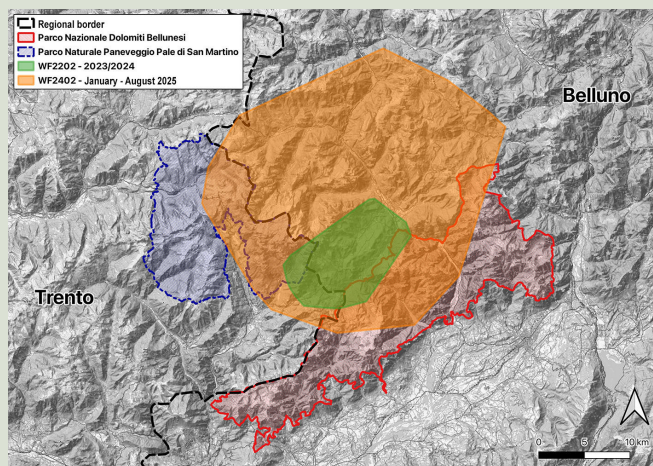


Figure 2: Map of the annual territory of the pack (in green) in comparison with the area used by WF2402 (in orange) in the period from January to August 2025

dered. Furthermore, in contrast with the typical spatial behaviour of wolves in packs, WF2402 did not reduce the area covered in spring, a period when there is normally a reduction in the home range due to the birth of cubs. The absence of this evidence made it possible to exclude the possibility of the animal mating during the monitoring period.

Along with spatial monitoring, thanks to the use of the GPS collar it was also possible to analyse the predatory behaviour of the animal. The frequent acquisition of locations and the good quality of the data transmitted made it possible to identify concentrations of GPS points no more than 200 m away from each other, potentially indicating predation sites. This information allowed the organisation of targeted and prompt inspections aimed at verifying predation and identifying the species preyed on. Once a cluster of locations was identified and predation confirmed, the operators proceeded with systematic collection of environmental data and information regarding the prey, as well as with taking of biological samples useful for

subsequent analysis. The data related to WF2402 were collected for around 15 days a month during the whole period in which the collar was functioning.

Along with spatial monitoring, thanks to the use of the GPS collar it was also possible to analyse the predatory behaviour of the animal. The frequent acquisition of locations and the good quality of the data transmitted made it possible to identify concentrations of GPS points no more than 200 m away from each other, potentially indicating

predation sites. This information allowed the organisation of targeted and prompt inspections aimed at verifying predation.

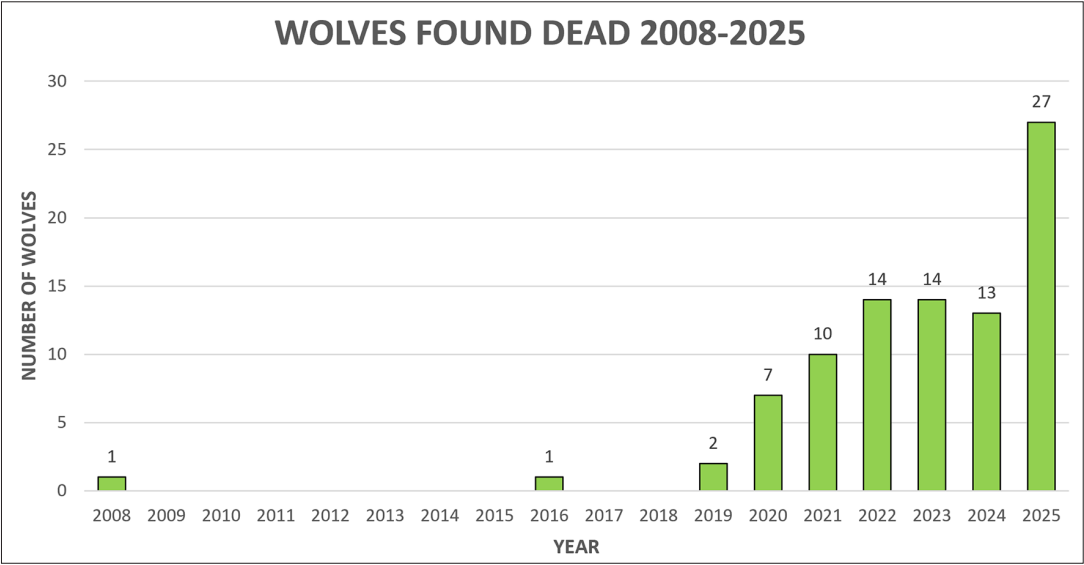
Analysis of predatory behaviour showed that **WF2402 preyed exclusively on wild fauna**, with a marked prevalence of **red deer (63%)**, followed by **roe deer (21%)**, **foxes (11%)** and a small percentage of **unidentified species (5%)**. An average stay of c. 4 hours 30 minutes at the predation site was estimated, with variations linked to the species preyed on. In almost all cases a **return to the carcass** was observed **in subsequent days**. This is common behaviour designed to maximise the use of food resources. As a lone wolf, WF2402 had greater difficulty in actively preying on large ungulates compared to wolves in packs. As a result, various episodes of **scavenging** were also documented, namely the **consumption of carcasses belonging to animals not preyed on directly** or waste of human origin. The wolf WF2402 was not involved in any attacks on livestock or pets during the whole monitoring period.

In 2025, the **deaths of 27 wolves** were recorded (10 males, 14 females and 3 of undetermined sex). In **12** cases the deaths were due to **road accidents**, in **3** cases to **probable road accidents**, in **4** cases to **poisoning** (4 animals involved in the same event), in 7 cases to **unknown causes** (or not yet known when this report was issued), and in **1** case to **management culling**. Graph 5 shows the trend for

wolves found dead since the species reappeared in Trentino.

The deaths recorded (Graph 5) represent only a part of the real number. In the context of what is by now a relatively large population, **death from natural causes** is in its turn relatively significant, but for evident reasons is **more difficult to detect**.

Graph 5



Predation and consumption of wild animals

487 cases of **preying on/consuming wild animals** were identified and recorded. The data is given in Figure 7, which shows the **distribution and the species preyed on/consumed**. Figure 8 instead shows the total number of cases of **preying on/consuming wild animals** identified and recorded in the last five years (**2,268 data records**). The map shows effectively that predation by wolves is essentially linked to the different availability of prey species, with a preference for **red deer** where there is a greater density of these (north-western and north-eastern

Trentino), for **chamois** in the foothills of the Alps in the south-east of the province, **mouflon** in Val di Fassa and **roe deer**, found in abundance throughout the province.



Photo 8 - Wolf captured by a camera trap on the Paganella tableland (M. Zeni - APT Wildlife Department archives)

Figure 7

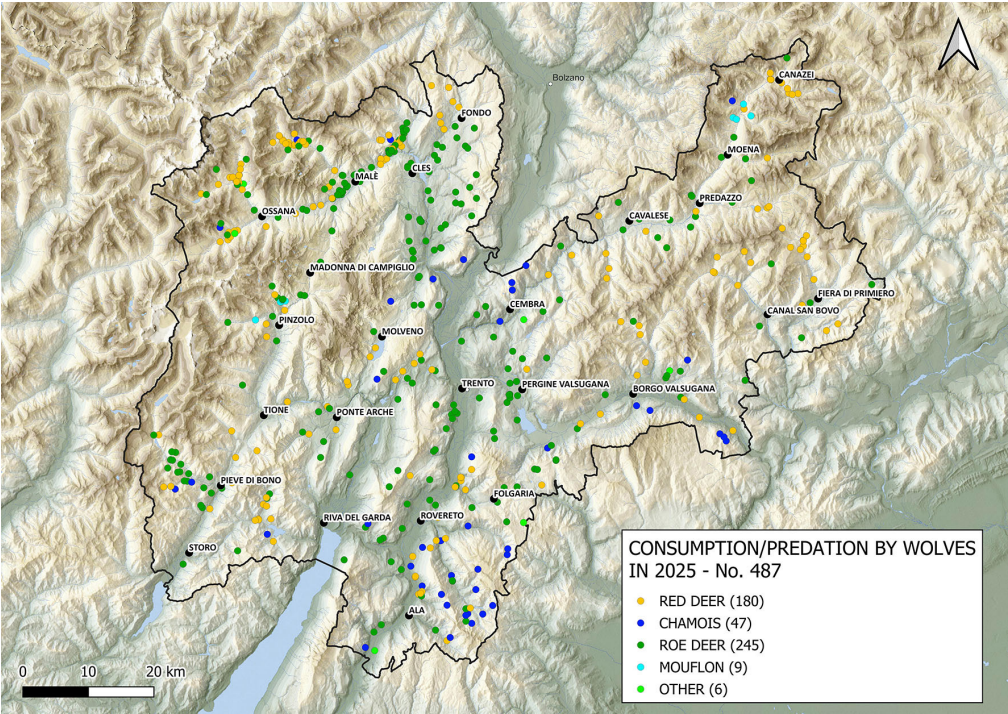
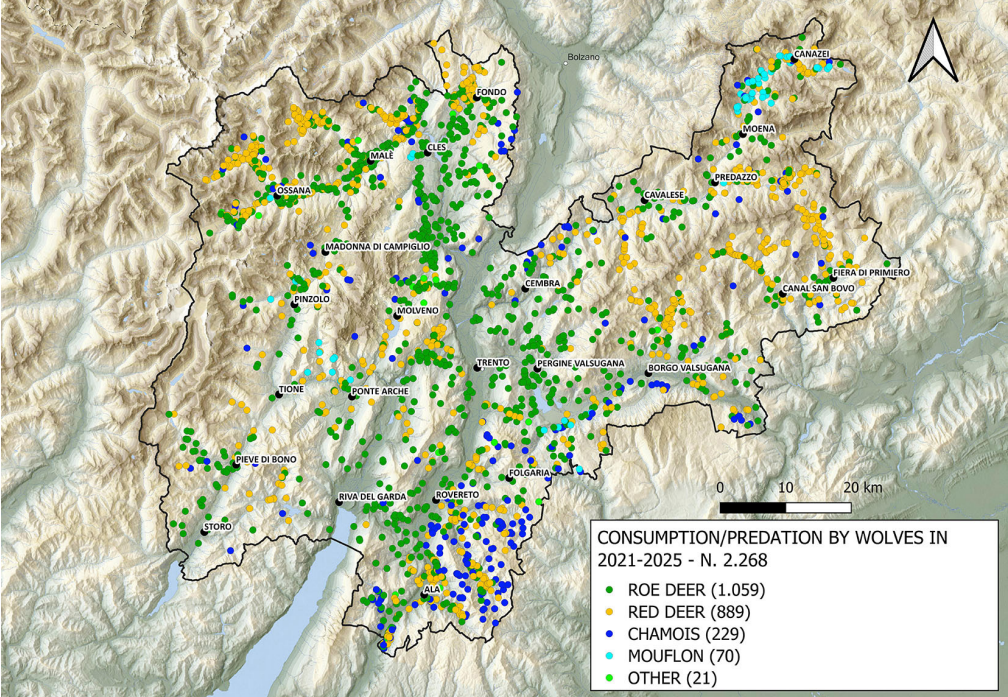


Figure 8



It should be recalled that the carcasses found represent **only a part of the real number** of animals preyed on, most of which remain undetected. Even the **different proportions of the various species recorded** do not necessarily reflect the real situation, given that the finding of prey by man can be influenced by different factors (for example the vicinity of the carcass to footpaths, roads or inhabited areas, altitude, level of anthropic development, size of the prey etc.), invalidating the real representativity of the data.

1.3 The Lynx

Monitoring of the species began when the **lynx made its return to the province**, namely in the second half of the **1980s**, with the appearance of a number of animals in **eastern Trentino in the Lagorai mountains** (present for around 15 years, until the early 2000s).

Traditional survey methods in the field, **camera traps, radio-tracking** and **genetic monitoring** were also used for this species from the beginning.

The **only lynx certainly present** in the province of Trento (from **2008 to 2022**) was the **male** known as **B132**, who came from the small Swiss population reintroduced in the **St Gallen Canton** (see **pages 45 and subsequent** of the 2008 report, along with the appendices and sections relating to the lynx in all subsequent reports). During **2025**, for the third year running, **it was not possible to document any signs of presence** related to the lynx

1.4 The Golden Jackal

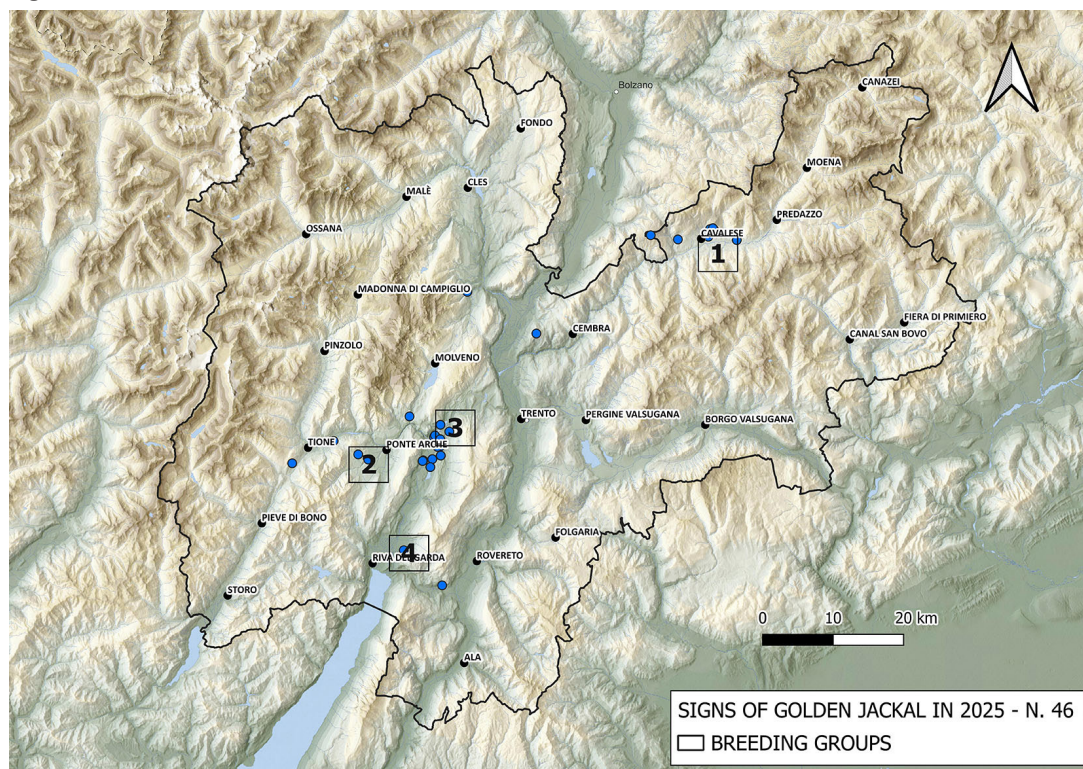
The **golden jackal** (Photo 9), a wild canid smaller than the wolf but larger than the fox, has been colonising continental Europe for some decades (for further details, see the relevant box in the 2020 Large Carnivores Report, pages 29-30). **Since 2012, the province of Trento** has also been concerned by this phenomenon. Starting from the **first ascertained case of breeding (2020)**, the positive trend continued in subsequent years. In **2025**, the species was **recorded 46 times**, with the presence of at least **four breeding groups**: in the **Bleggio-Lomaso** area, the municipality of **Ville di Fiemme**, south of Arco, and the municipality of **Madruzzo** (Figure 9). One less breeding group was ascertained compared to 2024, nevertheless it is believed that the species is still expanding within the province.

3 dead jackals were also found in the province (2 killed in road accidents at Arco and Tesero, 1 dying of unknown causes at Varena), along with **one injured animal** (in Bleggio Superiore, captured, treated and released into the wild).



Photo 9 - Golden jackal captured by a camera trap in 2025 in Val di Fiemme (G. Listorti - APT Wildlife Department archives)

Figure 9



Box 6 - The activities of the Associazione Cacciatori Trentini (ACT) to monitor large carnivores in 2025

By Enrico Ferraro

The **Associazione Cacciatori Trentini** - APS (ACT) has a long history of cooperating in the **monitoring of large carnivores**, beginning with the LIFE Ursus project (1997-2004). From the first phases of the project, the ACT has actively contributed to monitoring the bears released, with its own staff involved in radiotracking activities. Over the years, this cooperation has taken different forms, culminating in February 2015 with the stipulation of a specific **cooperation agreement** with the then Forests and Wildlife Department. The agreement dealt with key issues

such as the systematic and opportunistic monitoring of large carnivores and aspects relating to communication. In the last few years, coinciding with the return of the wolf to increasingly large areas of the province, ACT's activities have significantly increased, in order to obtain a constantly updated picture of the distribution of the species. During 2025, there were continuing activities linked to monitoring and reporting of direct sightings and indirect signs of presence for the three large carnivores most widely present, namely the bear, wolf and golden jackal.

ACT's personnel, made up of **gamekeepers** and **technical staff**, collected over **230 ca-**

ual signs of presence, distributed as follows: over 160 signs of wolves; over 60 signs of bears; 6 signs of the golden jackal. In addition to these, there were numerous further **reports from hunters**, who subsequently **reported signs to supervisory staff**. Some particularly significant facts were documented thanks to the monitoring carried out, including wolf litters, with a new pack recorded in an area where the species was not previously present in a stable manner, several cases of breeding by bears, and the presence of several golden jackals in new areas within the province of Trento.

During the year, the **informative and training evenings** directed at hunters continued, focusing especially on the wolf. The activities included specific training sessions and the publication of informative articles. The legislative process regarding the significant downgrading of the wolf's status was of particular interest to the world of hunting, which greeted the change favourably, while awaiting news regarding the concrete regu-

during the annual meeting of rectors. The in-depth discussions covered both questions regarding possible culling waivers, and the impact of the wolf on ungulate populations (roe deer, red deer and chamois), species whose management is entrusted by the Autonomous Province of Trento to ACT. The goal is to understand how best to adapt management of ungulate species in the light of the natural return of the wolf to the area.

When addressing the issue of scientifically and legally sound approaches, particular attention must be paid to the complex question of **bears**. ACT has been a partner in the Life Ursus project from the beginning and **continues to support the return and presence of this species in the province of Trentino**. It is hoped to arrive at a situation of balanced management, providing for the removal of more problematic animals. However, it is fundamental for all action to take place **lawfully**. **ACT categorically condemns the illegal killing of bears and strongly condemns all instances of poaching**. Poaching poses a threat in various ways: it jeopardises the medium to long-term survival of the bear population, it brings the actions of hunters – almost all of whom operate entirely within the law – into disrepute, and it runs counter to the sector's commitment to the conservation of this species in the region and to biodiversity in general. ACT forcefully reiterates that only with a legal and scientifically sound approach will it be possible to ensure sustainable coexistence between local communities and the large carnivores present in Trentino.

[illegible]

lations that would be put into effect at national and possibly provincial level. It is by now indisputable that the return of the wolf has led to new situations, requiring a rigorous approach based on scientific data. For proper management of the species, it is essential to gather accurate information, making it possible to base management decisions on real data. In this context, in 2025 ACT organised a presentation by Professor **Marco Apollonio**, one of the greatest experts on wolves,

Box 7 - FROM ANTHROPOLOGY TO AUDIO-VISUAL DETERRENTS: the Adamello Brenta Nature Park's practical projects

The “Integration of Large Carnivores in the Alpine Anthroposphere” project launched in 2023 by Adamello Brenta Nature Park in cooperation with anthropologists from Ca' Foscari University in Venice and sociologists from the University of Sassari, stems from an awareness that the future of large carnivores depends on two inextricably linked mainstays: active management and constant clear communication.

Anthropological and sociological surveys carried out within the park and neighbouring areas have explored the attitudes of stakeholders and local communities using a thorough qualitative and quantitative consultation process, with a structured questionnaire obtaining over 2,000 responses, supplemented by more than 1,500 open-ended comments. Analysis provided significant social insight: the majority of residents do not identify with the extreme polarisation of those who advocate total eradication or those who advocate complete protection.

On the contrary, a significant percentage of the population, while not in favour of the current situation, calls for a new equilibrium. To achieve this, citizens request both ‘clear’ information and practical measures for the management of animals described as problematic.

One of the most significant results emerging from the initiative is that it is important to identify shared objectives that can be achieved through concrete projects, serving as an opportunity to meet and engage in clear, transparent and honest dialogue.

The “Deterrent Project”, in cooperation with ANARE and tenant farmers at Malga Plan and Malga Zerli, takes a practical approach to addressing the conflict between large carnivores and mountain livestock farming: during 2025, trials began on acoustic and light deterrents (ALDs) emitting lights and sounds activated by motion sensors or timers that predators perceive as signs of human presence and danger, prompting them to move away. A number of important objectives were achieved, and specifically, the effectiveness of ALDs in driving wolves away from the area was directly observed.

A second pilot phase is planned for 2026, to be carried out under different environmental conditions, with the ultimate goal of optimising the number and the maintenance of devices in order to extend their use on a broader scale, minimising costs and losses, and fostering fruitful collaboration.

Further information on the two projects can be found on the park's website at www.pnab.it.

Strong acceptance	Strong support for the presence of bears and wolves, seen as essential components of biodiversity. Coexistence is regarded as a moral duty that must not interfere with wildlife.	circa 6-8%
Limited acceptance	A form of pragmatic tolerance. The presence of the animals is accepted as a situation already existing in the area, but which requires careful management to maintain a balance.	circa 10-14%
Regulation	Coexistence is only possible under certain conditions, requiring rigorous technical management, control of population numbers (e.g. selective hunting) and the use of deterrents (e.g. bear spray).	circa 22-30%
Relative incompatibility	Coexistence is valid in theory but impractical in Trentino, considered too heavily developed and overcrowded to allow for peaceful enjoyment of the mountains.	circa 21-26%
Total incompatibility	Total rejection of coexistence. The animal is considered to be a dangerous predator and conflict inevitable. Clear separation of the human and natural worlds is the prevailing vision.	circa 30-32%

2. DAMAGE COMPENSATION AND PREVENTION

By now APT has gained fifty years' experience as regards compensation and the prevention of damage. Indeed, **since 1976** 100% of the material value of assets damaged by bears has been **reimbursed** and it is possible to acquire damage **prevention** works (mostly consisting of electric fences or guard dogs). The relative provisions, regulated by article 33 of **provincial law no. 24/91**, have been revised and updated several times over the years (lastly by provincial government resolution no. 948 of 4 July 2025) also on the basis of directives imposed by the provincial government with resolution no. 1988 of 9 August 2002. With Resolution no. 697 of **8 April 2011**, the provincial government further revised the regulations for damage compensation, also providing for compensation of **ancillary expenses** and extending 100% compensation to damage caused by **lynx and wolves**.

Damage prevention activities continue to take place mainly following two main lines of action: **funding** covering up to 90% of the cost of damage prevention works, or **gratuitous loans** of such works.

There are also a series of **further activities** directed more generally at the **prevention of conflict**.

Damage compensation

In 2025, **304 applications for compensation** were presented (**248** by **businesses** - 82%, and **56** by **private individuals** - 18%), **282** of which were **accepted or partially accepted** (damage confirmed) and **22 rejected**.

€ 226,573.17 of compensation was **paid**, of which **€ 91,062.98** for damage by **bears (127 cases)** and **€ 135,510.19** for damage by **wolves (155 cases)**.

The data regarding **damage compensated in 2025**, distinguished by predator and type of damage, are shown in detail in **Table 3**.

Graphs 6 and 7 show the **trend for damage by bears and wolves over the years** and the amount of compensation paid.

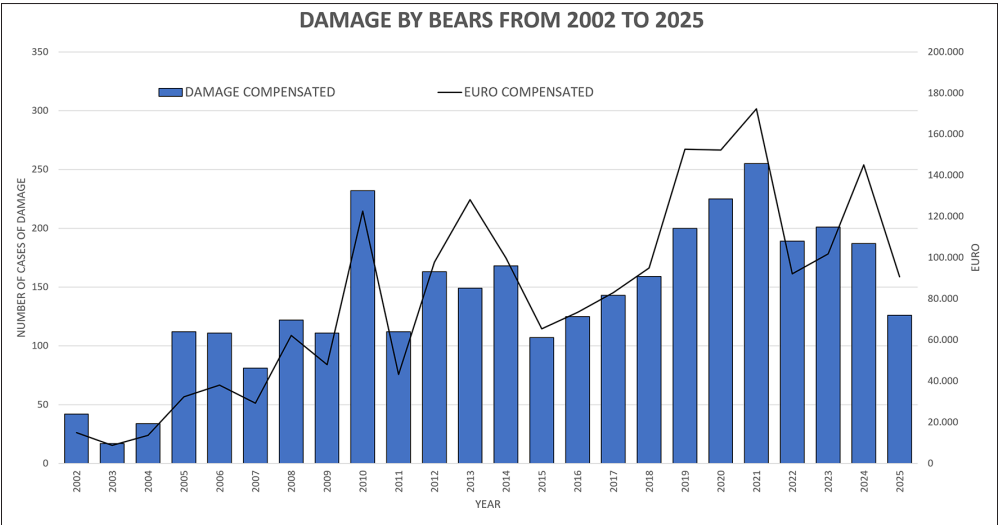
A total of **478 domestic livestock** (sheep and goats, equines, cattle, camelidae and dogs) **were preyed on (either killed, injured or lost)**, of which **40** by **bears** and **438** by **wolves**. **Table 4** shows these animals, distinguished by category and the outcome of the predation.

A further 136 small farmyard animals were preyed on (22% of the overall number of animals killed, injured or lost following predation by wolves or bears), almost exclusively by bears (135, compared to only 1 by wolves). Thus in **2025**, a **total of 614** livestock were damaged.

Table 3 - Damage by large carnivores compensated - 2025

ASSETS	BEARS		WOLVES		TOTAL	
	No. CASES	AMOUNTS €	No. CASES	AMOUNTS €	No. CASES	AMOUNTS €
BEEKEEPING	18	10.747,74	0	0	18	10.747,74
AGRICULTURE	57	50.039,51	0	0	57	50.039,51
OTHER	29	12.769,45	0	0	29	12.769,45
LIVESTOCK	23	17.506,2	155	135.510,19	178	153.016,47
TOTAL	127	91.062,98	155	135.510,19	282	226.573,17

Graph 6



Graph 7

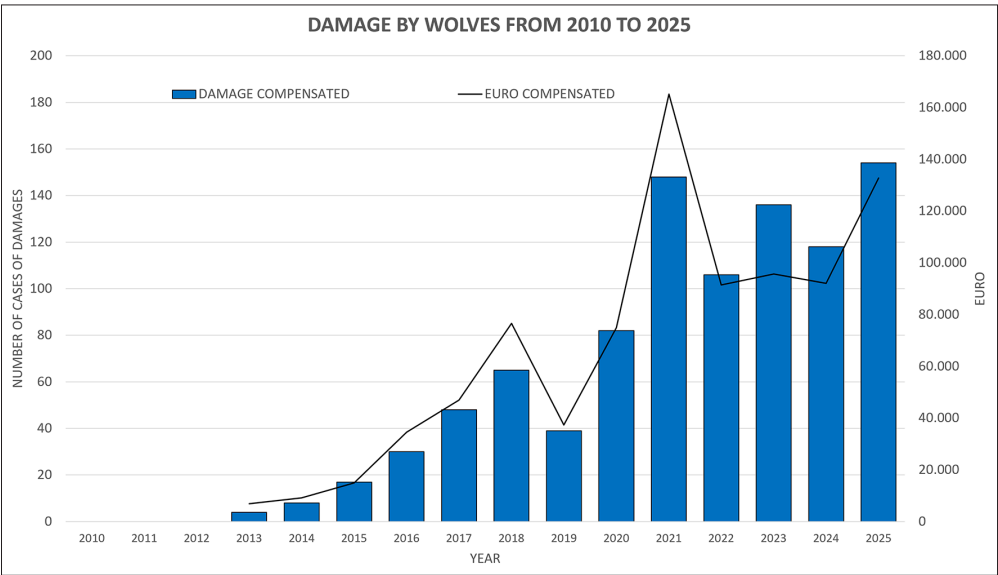
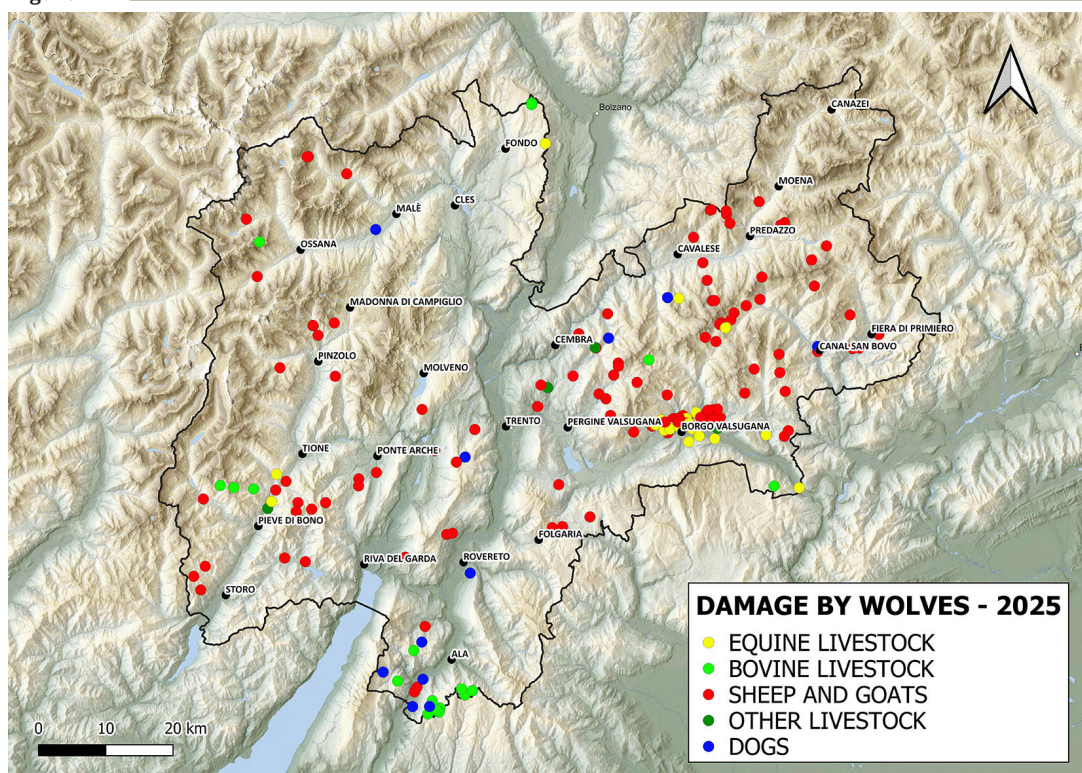


Table 4 - Damage by large carnivores compensated - 2025

LIVESTOCK	BEARS			WOLVES			TOTAL
	DEAD	INJURED	MISSING	DEAD	INJURED	MISSING	
SHEEP/GOATS	13	1	6	243	34	59	326
EQUINES	13	0	0	37	16	1	67
CATTLE	3	2	0	26	8	0	39
CAMELIDAE	0	0	0	1	0	0	1
DOGS	0	2	0	2	11	0	14
TOTAL	29	5	6	309	69	60	478

Figure 11



Management control activities

To conclude, with reference to damage by wolves, **two specific cases taking place in 2025** should be recalled (in **Lessinia** and **Bassa Valsugana**). In these cases, there were spikes or patterns of **severe damage close together**, leading to consideration being given to the **removal of certain wolves**, in accordance with existing legislation.

In the first case, in **Lessinia in Trentino**, on 11 and 13 August 2025 at Malga Boldera, there were two events involving **predation** by wolves, leading to the deaths of **8 calves** in total. The cattle were preyed on by wolves **inside a seven-wire electric fence**, specifically designed to protect them. Given that this type of damage represents one of the categories providing for the possibility of lethal removal as an exception to the rule, according to ISPRA protocols (“Exemption from strict protection of wolves as a means of preventing serious damage to livestock - 2025”), with a decree dated

4 September 2025, and having obtained **approval from ISPRA**, the President of the Province authorised the lethal removal of a **maximum of two wolves** in the Lessinia area of **Trentino**. **One wolf** was subsequently culled in accordance with the decree, by personnel from Trentino Forestry Corps on **19 September 2025** (the first case in Trentino, and the second in Italy, following the wolf lethally removed in August 2025 in Alto Adige-Südtirol).

In the second case, in **Bassa Valsugana**, **numerous incidents involving damage** to small flocks of **sheep, goats and donkeys**, mainly belonging to non-professional farmers, were reported over the summer. In this case, the option of proceeding with **lethal removal** to prevent further serious damage to livestock was not pursued by the Administration, given the **insufficient number of preventive measures** in place, bearing in mind the aforesaid ISPRA protocols and the **negative opinion** expressed by the institute.

Box 8 - Analysis of damage to beekeeping by brown bears in the 2001 – 2025 period

INTRODUCTION

After more than twenty years since the reintroduction of bears to western Trentino (the last releases took place in 2002), it is time to begin reflection on the challenges faced by beekeepers in Trentino and possible coexistence with bears in the medium to long term. Between 1998 – before the operational phase of the bear reintroduction programme began – and 2025, the number of registered beekeepers in the province of Trento rose from **1,147** (16,058 beehives) to **1,540** (29,574 beehives), with a steady and continuous increase, even **after the reintroduction of bears**, representing an increase of 26% in beekeepers and 46% in beehives.

In Trentino, there are 1,133 **amateur** beekeepers (74%), who own 31% of beehives (9,220). In contrast, there are 407 (26%) **beekeeping entrepreneurs who have an agricultural business**, with a total of 20,354 beehives (69%). Of these, 53 are **professional beekeepers** (3%), who own 10,668 beehives (36%).

There are 1,494 beekeepers (97%) who own fewer than 100 beehives, for a total of 17,287 hives (58%), whereas there are 46 (3%) who own over 100 beehives, for a total of 12,287 hives (41%).

Annual honey production in Trentino varies greatly depending on weather conditions, but is estimated to be around **3,000 quintals**.

As in the rest of the world, beekeeping in Trentino faces significant challenges, such as the use of pesticides in agriculture, habitat loss, climate change, the presence of devastating pathogens and pests such as *Varroa destructor*, and the possible arrival of the dreaded *Aethina tumida*. Western Trentino is also affected by the **presence of the brown bear**. Despite the challenges, beekeepers are showing resilience by increasingly opting for management practices that are both innovative and sustainable. **The adoption of measures to mitigate damage caused by bears** also takes place in this context.

ers are showing resilience by increasingly opting for management practices that are both innovative and sustainable. **The adoption of measures to mitigate damage caused by bears** also takes place in this context.



Photo 1 - Bear near an apiary protected by an electric fence. (R. Dorna – APT Wildlife Department archives)

Damage recorded

In most cases, damage to beekeeping is a result of the hives containing bee colonies being knocked over and opened (bears seek mainly the larvae in the brood nest), and/or damage to apiary structures and management equipment.

In the 2001–2025 period, 1,202 events involving damage to beekeeping were recorded, namely 28% of the 4,237 overall cases of damage by bears. The damage concerned 2,902 beehives, of which 2,556 contained productive bee colonies (2,320 colonies destroyed and 236 damaged), and **346 newly formed colonies** (303 destroyed and 43 damaged). In a further **214 cases** the damage concerned **hives for fecundation of queen bees** (fertilisation nuclei). The

average number of beehives damaged (colonies and nuclei) per **individual event** was **2.4**, usually the most external hives in the row. The maximum number of colonies damaged in a single event was 21 (in Contà in 2020). Overall, **€ 692,000** was compensated.



Photo 2 - Signs of bear claws on the frame. (M. Zeni - APT Wildlife Department archives)

Distribution of damage over time

In the 25-year period considered, an average of **48 cases of damage a year** were recorded (Graph 1). Damage to beekeeping

Graph 1

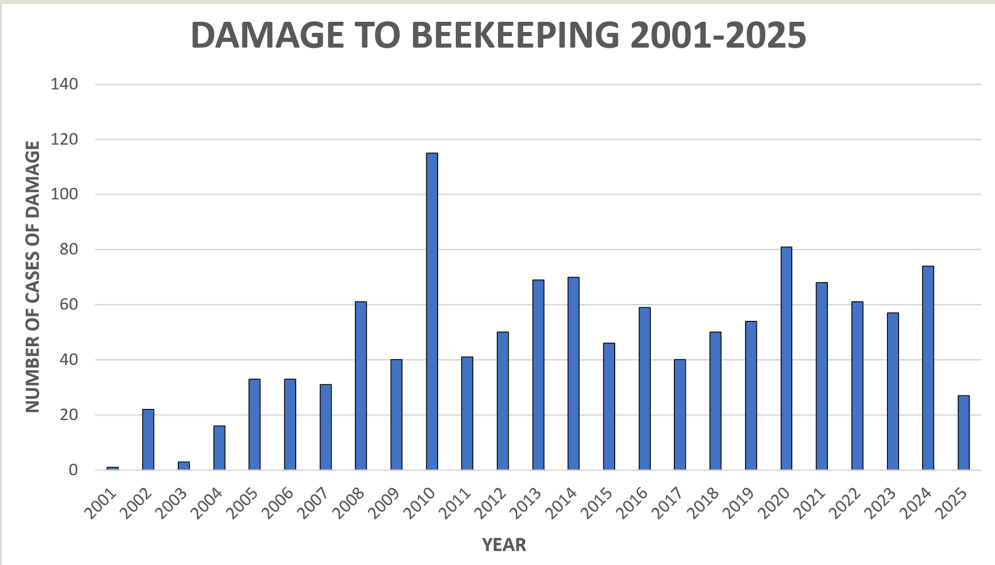
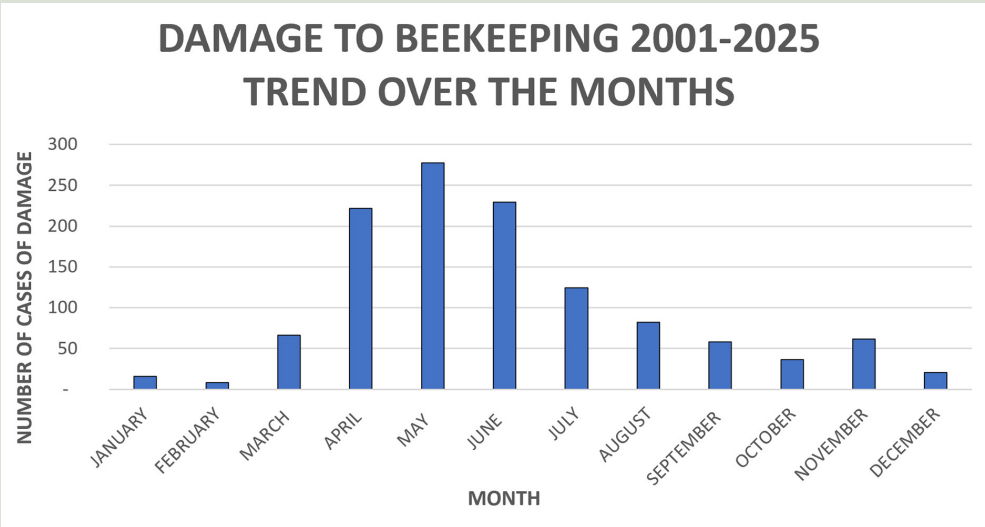


Photo 3 - Damage by bears to a bee colony. (APT Wildlife Department archives)

assets is concentrated mainly in the spring and summer, between April and **July** (Graph 2). When it takes place in late autumn and winter, it is often linked to anomalous behaviour by individual bears that have remained active during this period.

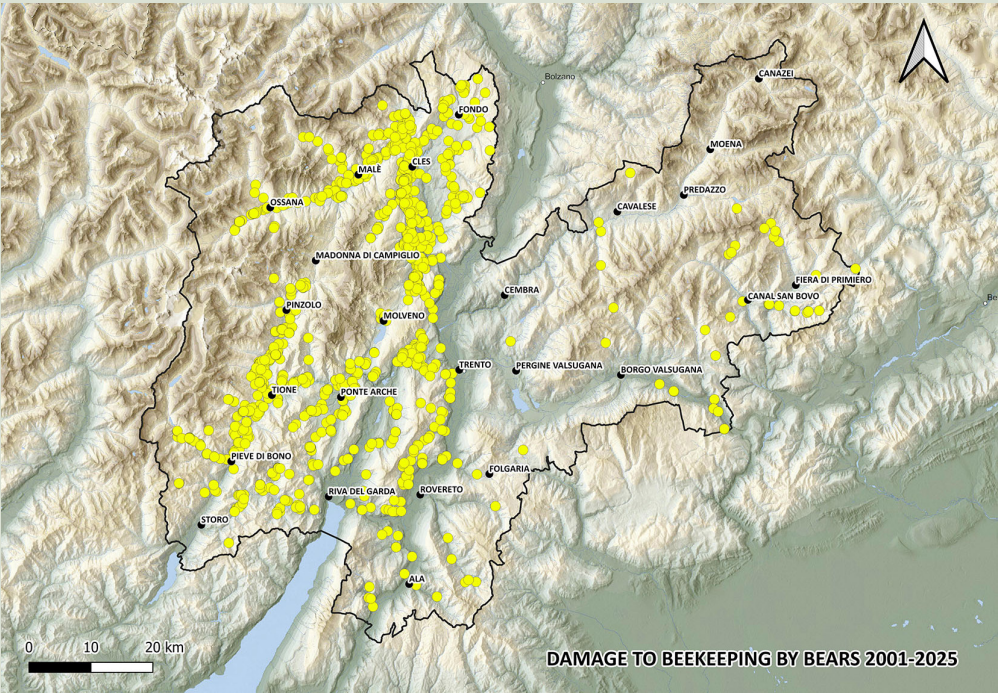
Graph 2



Spatial distribution of damage

95% of damage (1,148 cases) took place in **western Trentino**, the area where the bear

is present in a stable manner, while the remaining 5% (55 cases) were caused by young roaming male bears in **eastern Trentino** (see Figure below).



The latter, while only a small number, taking place sporadically in terms of both time and space (the largest number recorded was in 2024, with 14 cases probably all caused by the same bear, M75), have created considerable apprehension among local beekeepers, unused to such events. Indeed, these do not make habitual use of prevention works, which in eastern Trentino are only provided on loan by the provincial administration when beehives have already been visited by bears, to avoid excessive expense in a context where the species is only sporadically present.

In **900 cases** (75% of the total) **the damage took place during the night**, in 68 cases (6%) at dawn or dusk, and in 36 cases during the day (3%), while for the remaining 198 cases (16%) no data was available.

12% of events involving damage (143 out of 1202) concerned **beehives used for the pollination of orchards**. In this brief period, usually lasting around fifteen days in spring, it is more difficult for beekeepers to protect their hives (for this reason, the existing regulations do not provide for compulsory prevention works in order to access compensation), as the activity requires the beehives to be distributed in small groups (5-8 hives) spread around the orchard. In order to mitigate the impact of damage in this period, in the last few years there has been increased cooperation between the Wildlife Department and fruit-growers' consortia. By rationalising hive distribution, this aims to reduce the number of stations by grouping hives together, while at the same time protecting them with electric fences, some of which are supplied by the Wildlife Department and others purchased directly by the consortia.

Prevention of damage

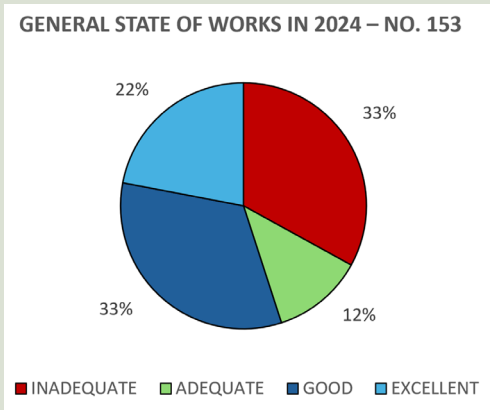
In **916 cases** (76%) **the damage took place in the absence of prevention works**, whereas in the remaining **286 cases** (24%) the prevention work was present (mainly light-weight electrified netting or wire fencing). In the case of the latter, in 106 cases (37%) it could be noted that the predator had climbed over, broken down or dug underneath the fence, while in the remaining 180 cases (63%) the dynamics were unclear or not noted in the report.

When the damage is inspected, assessment of the effective functioning of the prevention works is often difficult, because the fencing has often been damaged or modified by the beekeeper in order to allow the apiary to be restored.

To obtain more reliable data on the correct use of preventive measures, on three occasions (in 2014, 2020 and 2024) the Forestry and Wildlife Department, and subsequently the Wildlife Department, carried out a sample survey of a significant proportion (25%) of all prevention measures distributed within the province (see pages 39-41 of the 2024 Large Carnivores Report).

With reference solely to the 2024 inspection and to beehives alone (93), the general condition of the preventive measures was shown to display a certain inadequacy in terms of **maintenance** (29%) and/or **positioning of the work** (10%) and/or **positioning of the hives within it** (4%) and/or the **construction characteristics** (19%). Over time, there has been a constant increase in the number of beekeepers equipping themselves with electric fencing (to date a total of 1,435 prevention works for beehives have been distributed) however, **the improvement that might have been expected in setting up and above maintaining such works has not been noted**. This means that

there are still numerous cases when the prevention work is present, but for various reasons does not adequately fulfil its role. It should also be noted that in 30% of cases, the prevention work delivered was not present at the time of the inspection, for various reasons, sometimes justifiable and sometimes not.



Graph 3 shows the general state of the works checked in 2024.

Lastly, it was shown that the use of electric fencing may also have a **positive psychological effect** on beekeepers, over and beyond the greater security for their beehives. Indeed, in some cases beekeepers have stated that they felt more comfortable carrying out their activities behind the fence, above all when apiaries are situated on the edge of or inside woods, and in areas constantly used by bears.

The overall picture emerging suggests that **training on the correct use of prevention works** is still a **primary objective to be pursued**, to further reduce the impact of damage and seek a sustainable balance.

Construction of a “**Bienenhaus**” (a wooden structure to protect beehives), built to resist attacks by bears and/or equipped with a defensive electric fence, can also represent a form of improved management leading to a reduction in damage by bears. In this context, the existing regulations (urban planning and construction regulations no. 208) were amended in 2025, extending access to funding to amateur beekeepers with a **minimum of 20 beehives** (previously the limit was 40), in geographical areas concerned by the stable presence of bears.



Photo 4 - Bienenhaus financed with PSR funds on Monte Baldo in Trentino. (M. Zeni – APT Wildlife Department)

Conclusions

Initially, poor knowledge of the species and electric fencing, and uncertainty regarding the possible extent of damage to beekeeping by bears understandably led to a sense of insecurity and worries among beekeepers, contributing towards increasing their **opposition to the presence of bears**. However, over time it has been possible to note a significant change in beekeepers’ attitudes, particularly with reference to the level of damage by bears ‘to be expected’. Since the bears were reintroduced, over twenty years ago, beekeepers have gained greater knowledge and awareness of the



Photo 5 - Structure built in the 1970s in Valle dello Sporeggio (Brenta Dolomites) to protect beehives from visits by the last original alpine

Trentino leads the administration to believe that this **business category is the first to have by now developed a relationship of coexistence with bears that also involves accepting damage** (which can be reduced but never fully eliminated) and the **increasingly widespread use of prevention works, as a matter of established practice**. Lastly, it is possible to reinforce and **promote the presence of bears** as a resource for the area in terms of image (e.g. marketing of products linked to beekeeping).

real extent of the phenomenon. They have been able to ascertain that the **impact of the bear is not so significant that it irreparably jeopardises their activities** and many by now make habitual use of prevention works. The current attitude of beekeepers in western



Photo 6 - Electric fencing correctly installed by the Associazione Apicoltori Trentini in Val di Tovel. Two further electrified tapes have been placed externally to discourage any attempts to dig under the fence. (M. Zeni, APT Wildlife Department archives)

Box 9 - Damage to cattle by wolves in Lessinia

By Leander Mölgg^{1,2}, Giulia Bombieri²

1 BOKU Vienna – Institute of Wildlife Biology and Game Management

2 MUSE – Science Museum, Biology and Conservation Division

In the **Lessinia** area, which lies on the border between the **Autonomous Province of Trento** and **Veneto**, the **first pack of wolves formed in the eastern Alps in 2013**. The return of the wolf has led to conflict with the animal husbandry sector, and the **zone is one of those classified as “high-risk” for predation by wolves on livestock**. The area is a special case in relation to ma-

nagement, with **cattle** representing the **type of livestock most preyed on**. For the first time, a doctorate thesis has brought together all the **data regarding predation by wolves on livestock in Lessinia (in Veneto and Trentino)** in the **2012–2024** period, analysing spatial and temporal dynamics and recurring characteristics.

Between **2012 and 2024**, in **study area 1** (the area within the rectangle in Figure 1) there were **711 predation events**, with **952 animals** involved. **92% of the attacks (654 cases)** concerned **cattle** (84% killed, 15% injured and 1% lost), **6% sheep and goats** and **2% donkeys and camelidae**.

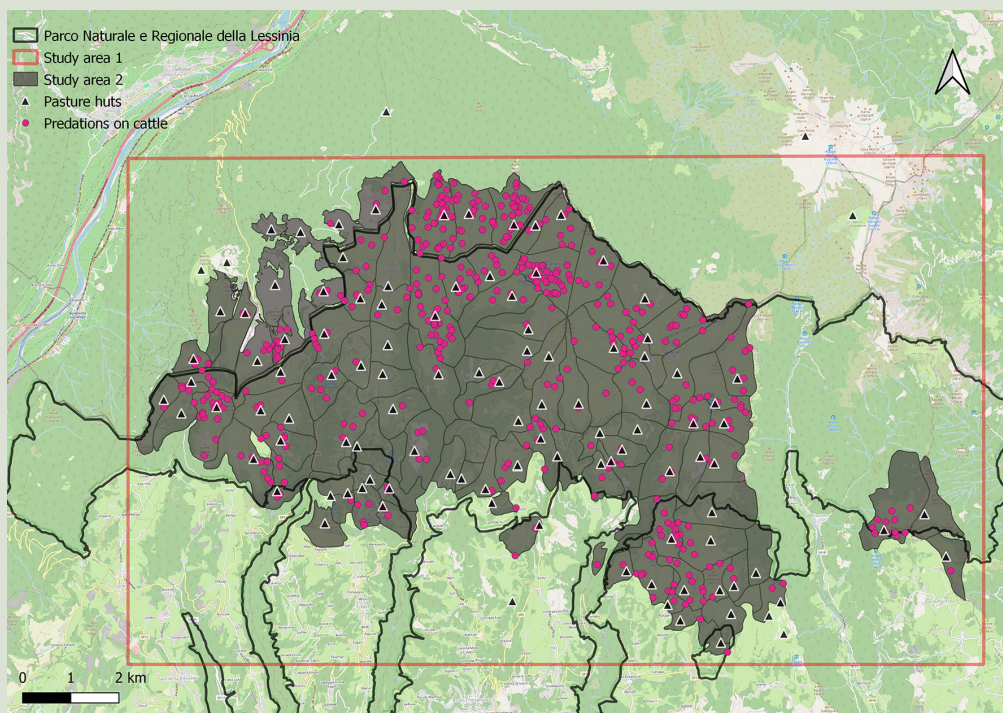


Figure 1: Map of the two study areas, also showing the extent of each area of pasture, the position of pasture huts and the location of predation on cattle (QGIS; OSM Standard, <http://tile.open-streetmap.org/{z}/{x}/{y}.png>).

499 of the attacks reported above, **involving 574 cattle**, took place in **study area 2** alone (made up of pastureland, shown in grey in Figure 1).

The data given below regard exclusively **study area 2**. The attacks on cattle concerned the **Friesian (61%)**, **Charolaise (8%)** e **Limousine (7%)** breeds, along with **14% mixed breeds**. The predation mostly involved **sub-adult animals** (with an **average age of 14 months**): **42%** were aged **between 0 and 10 months**, **39%** **between 10 and 20 months** and **13%** **between 20 and 30 months**, while **only 3%** of the cattle preyed on had an age of **between 30 and 40 months**.

Most of the attacks took place **during the night (72%)**, with fewer in the **early morning (16%)**. **Electric fencing** was used **only at one alpine pasture (Malga Boldera)**. Predation was not distributed homogeneously over the area, with **some alpine pastures more affected** than others (Figure 2).

13 alpine pastures in particular (out of 99 pastures reporting at least one predation event) recorded **ten or more predation events each**, which represented overall around **half of all the predation events on cattle** reported in area 2 during the whole period of study. Specific analysis identified a number of predation clusters in the area (with concentrations of at least 10 events in a radius of 500 m). The number of clusters

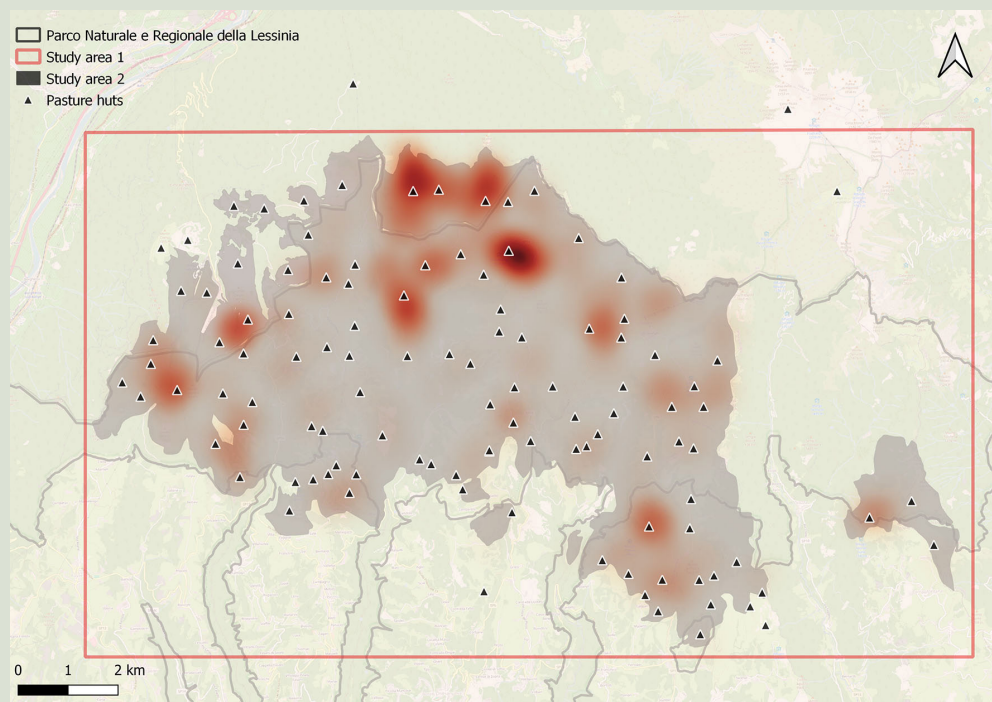


Figure 2: Heatmap of predation on cattle in study area 2 between 2012 and 2024 (QGIS; OSM Standard, <http://tile.openstreetmap.org/{z}/{x}/{y}.png>).

has increased in the last few years, with four clusters identified in the last three years (2022–2024). It is interesting to note that **3 of the most affected pastures** are found in the **Trenino area of Lessinia**, despite the lower number of alpine pastures and the smaller area covered compared to the province of Verona (Table 1).

MOUNTAIN HUT	NO. OF PREDATION EVENTS	NO. OF CATTLE INVOLVED
Podesteria	40	44
Scortigara di Fondo (TN)	39	47
Lago Boaro	36	39
Scortigara di Cima (TN)	28	32
Scortigara di Mezzo (TN)	20	27
Camporotondo	18	21
Pealda Bassa	18	18
Boldera (TN)	16	28
Costeggioli di Sotto	13	15
Campoleva' di Sopra	12	12
Campoleva' di Sotto	11	13
Castilverio	11	11
San Giorgio	10	10

Table 1: Number of predation events and cattle involved at the 13 mountain huts most affected

Some interesting correlations have also been identified. The **number of predation events increases close to mountain huts and decreases close to the edge of woods**. A **positive relationship** between the **number of predation events recorded in a given year** and the maximum number of wolves (and cubs) recorded in the area in the same year was also highlighted. The thesis described in detail a **context in which subadult cattle represent the preferred domestic prey** of the wolf, an unusual **scenario both at provincial and international level**. This highlights the wolf's high level of adaptability and plasticity in relation to the **availability of prey** and underlines the need to provide for **prevention measures adapted to the local context** to reduce the conflict between wolves and animal husbandry in the area.

Prevention of damage and conflict

The management of **prevention measures** at provincial level is coordinated by the staff of the **Wildlife Department**, in association with the local **prevention coordinators**, forestry wardens from the Forestry Service, who along with other institutional activities provided by the staff based at forestry stations, also have the role of guaranteeing **technical support** for the prevention of damage by large carnivores and of **supplying prevention**

measures in the form of gratuitous loans (or short-term loans for **emergencies**). This takes place through dialogue and **continuing liaison** with users: managers of farms and mountain dairies, shepherds, beekeepers and hobbyists etc. In order to respond promptly and effectively to these needs, the province has been subdivided into **9 areas**, corresponding with the Forest District Offices (FDOs), each of which is managed by a **contact figure** and their **assistant/stand-in**. During 2025 **155 applications** were processed in

relation to **measures to prevent damage** by large carnivores (electric fences and guard dogs), designed to protect livestock (Photos 10 and 11) or beehives



Photo 10 - Herd protected at Prada, San Lorenzo Dor-sino (area where bears and wolves are present in a stable manner). Thanks to the ability of the shepherds and the habitual use of damage prevention measures, the herd has only occasionally been subject to predation by large carnivores over a period of twenty years. (M. Zeni - APT Wildlife Department archives).



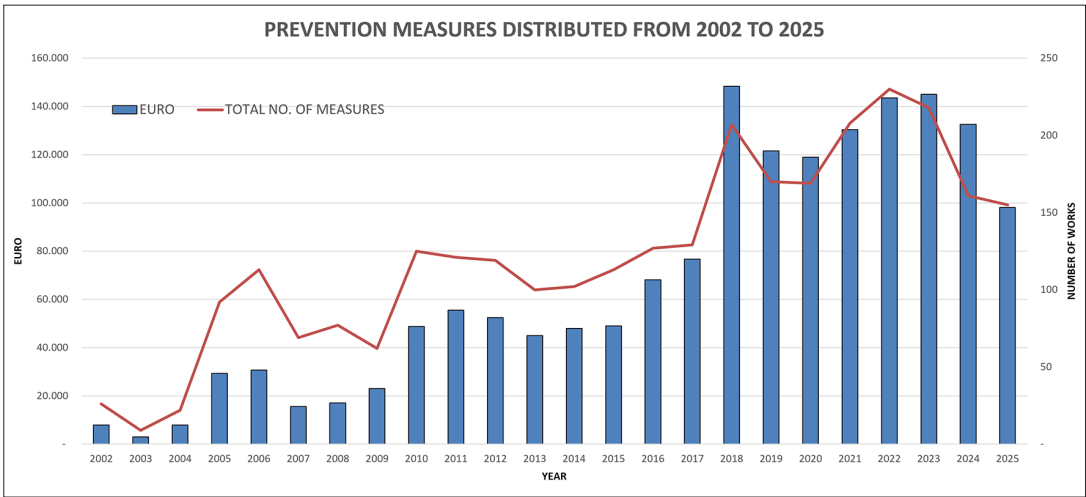
Photo 11 - Electrified traditional wooden fence (there is also electrification above the supporting wall) for the nighttime stabling of livestock in Vallagarina. (L. Gatti, APT Wildlife Department archives)

Of these, **150** were dealt with by Forestry District Offices (FDOs) through **gratuitous loans** of works (mobile fencing and fixed enclosures), at a total cost of around **€90,000**, and **5** by the Wildlife De-

partment through **capital funding** (mobile fencing, permanent enclosures and guard dogs), at a cost of around **€8,150**. In **2025**, a **total of € 98,150** was thus invested in prevention.

The following graph shows the **trend** for the number of **prevention measures** distributed and the relative costs (Graph 8). It is pointed out that **until 2012**, the provision of preventive measures concerned **only bears**, whereas **since 2013** there has also been a marked increase in preventive measures requested and distributed to protect against **wolves**.

Graph 8



Guard dogs

Guard dogs (Photo 12) have been used effectively for thousands of years to **protect domestic animals** from attacks by large carnivores. Due to the scarcity or disappearance of the latter, in the Alps the custom of using this form of support to prevent damage had been lost. In Trentino, **starting from** the first APT funding (2014 Report, p.43) for the purchase of **Abruzzese Maremmano sheepdog** puppies (the breed was previously known as the Maremmano Abruzzese sheepdog), it was decided to provide financial support for the use of guard dogs, bearing in mind the progressive return of brown bears and wolves to the area.

In 2025 **3 further dogs** were funded, at a cost of **€2,120**. **By the end of 2025**, a total of **102 dogs** had been publicly funded (up to 90% of cost) in the province of Trento.

The dogs purchased with financial support from APT have been supplemented by **autonomous purchases**, dogs from farmers' home litters or exchanges between farmers. These additional ways of acquiring dogs are a sign that the practise **of using guard dogs is by now well-established**. With the widespread use of these dogs, over time there has been a predictable and inevitable increase in **conflict with other users of the mountains** (day-trippers, people doing sports, walkers accompanied by dogs etc.), usually relating to episodes when the guard dogs have defended the animals entrusted to them particularly strenuously. Given this issue, **since May 2023** access to financial aid for the purchase of these dogs is subject to attending a **basic training course on the education and management of guard dogs**, in order to provide future users of these dogs with better knowledge of the behavioural characteristics of this support for preventing predation. Interested parties can organise this course independently, by contacting behavioural vets with proven experience, or they can make use of **courses organised** by public bodies (including the **Wildlife Department** itself) or associations.

In 2025, the Forestry Department and Wildlife Department continued to distribute **specialty prepared information panels** to those using guard dogs funded by the province, with the goal of ma-

king users of the mountains and pastures aware of the presence of **dogs protecting flocks**, and of describing **the behaviour to adopt** to reduce conflict with such dogs.



Photo 12 - Abruzzese Maremmano sheepdog at alpine pastures. (M. Zeni - APT Wildlife Department archives)

Support for animal husbandry

One of the provincial administration's objectives is to **encourage herders and their flocks/herds to stay at alpine pastures**. The presence of the shepherd and adoption of the most appropriate systems for preventing damage, along with fair compensation and constant liaison with local forestry service staff, are the strategic factors in **mitigating the impact of large carnivores on animal husbandry in the mountains**.

In 2025, the **prevention coordinators** followed in particular the progress of **30 alpine pastures** (Photo 13), which were provided with damage prevention works in the form of **loans** for the summer grazing period alone (usually from June to September). When possible, this temporary and/or emergency measure was replaced with the **assignment of gratuitous long-term loans** (with the works being lent to the user for a duration of 8 years) or by **funding** to acquire such works.



Photo 13 - Upper Val di Non: emergency intervention to protect a herd of young cattle subjected to predation. Experimentally, Smartfence fencing was installed (with 4 electrified wires) supplemented by fladry (lines of coloured flags known to deter wolves, at least temporarily). The wolves respected the prevention work for the rest of the season. (M. Zeni - APT Wildlife Department archives).

For the 2025 summer grazing season, support for sheep farming also saw the **supplying and helicopter transport of 11 accommodation modules** (Photo 14). This activity has the scope of encouraging the constant presence of shepherds, while at the same time providing nocturnal shelters for livestock protected with electric fences, where there are no alternative shelters and access routes.



Photo 14 - Temporary shelter for shepherds, transported by helicopter to Pisorno, Canal S. Bovo, for the 2025 summer grazing season. (C. Sperandio, APT Wildlife Department archives)

Construction of **permanent wooden shelters** continued, along with the renovation of uninhabitable buildings, to replace the units transported by helicopter. In **2025, Forestry Service personnel** made available a new shelter, by recovering an existing building at Laghi della Bella Venezia in the Municipality of **Bieno** (Photo 15). Further work was also carried out by the **Comunità di Valle della Valsugana e Tesino**, which constructed **two new wooden shelters**, respectively at Pian dei Cavai in the Municipality of **Telve di Sopra** (Photo 16) and at Viosa Alta in the Municipality of **Castello Tesino** (Photo 17), making use of **NRRP funds**.



Photo 15 - Traditional stone shelter renovated in 2025 by staff of APT's Forestry Department at Laghi della Bella Venezia, Bieno. (R. Dalledonne, APT Wildlife Department archives)



Photo 16 - Wooden shelter for shepherds constructed by the Comunità della Valsugana e Tesino at Pian dei Cavai, Telve di Sopra. (Photo: APT Wildlife Department archives)



Photo 17 - Wooden shelter for shepherds commissioned by the Comunità della Valsugana e Tesino at Viosa Alta, Castello Tesino (Photo: APT Forestry Department archives)

Box n. 10 - The Pasturs project

By Mauro Belardi - Cooperativa Sociale Eliante Onlus

During the 2025 summer grazing season, the Pasturs project continued in the province of Trento, for the fourth consecutive year.

Specifically, in the context of the **Livestock Protect** European project (www.livestockprotect.info), several **young volunteers** from all over Italy **assisted four farmers in Trentino** with the management of measures to prevent damage by large carnivores: maintenance, assembly and dismantling of mobile fences, accompanying animals to pasture, and supervision and management of guard dogs. The volunteers spent variable periods of time (minimum one week) at mountain pastures, as guests of the farmers, also offering their services to help with day-to-day activities.

In 2025 four farms were involved: Malga Tuena in Val di Tovel, Malga Val de Grepa in Val di Fassa, Malga Borca in Val di Non and Malga Alta di Fazzon in Val di Sole. These

represent very different situations, both in terms of environment and recent history in relation to the presence of bears and wolves. They have cattle, sheep, goats, donkeys, and in some cases also farm guesthouse facilities. Some adopt only electric fences, while others also make use of guard dogs.

Despite all the care, there was one episode of predation, involving a donkey.

In addition to practical support, the declared scope of the project is also to bring together people from different cultural backgrounds – farmers who deal with the reality of life in the mountains and young people, mostly from urban environments – with the conviction the everyone has something to learn from each other and that **dialogue** between worlds that do not usually mix can be **one of the main keys to coexistence**.

In 2025, 30 volunteers were involved, trained and assisted. It is hoped that the project will be able to secure the necessary funding to continue in 2026, despite the fact that support from the Life programme has come to an end.

Prevention and waste management

As is well-known, **organic waste** can be very appealing to brown bears. Due to the presence of remains of food, bears may be encouraged to **approach inhabited areas**. Habituation to this trophic resource can lead to **food conditioning** that over time makes bears more **confident in relation to man**, resulting in higher **risks** both for humans and bears. This phenomenon can and must be limited as much as possible, through suitable **communication** and with adequate **prevention measures** making these attractive sources inaccessible.

Action in this field has been **implemented** wi-

thout interruption in the province of Trento since **2009** (see pages 40-41 and subsequent of the 2009 report). The activities involved are **complex**, given the large and varied **geographical context**, with **different systems of storage and collection** and **multiple organisations** involved. It will therefore take some time for the process to be progressively concluded.

In 2025, **implementation of the provincial waste management plan** continued, in relation to provisions regarding the presence of large carnivores and other wildlife (see page 58 of the 2023 report and page 44 of the 2024 report). The box which follows summarises the activities carried out in the last year.

Box 11 - The Provincial Plan to protect urban waste collection systems from raids by large carnivores – update in 2025

By arch. Rosa Staiano - Agenzia per la Depurazione PAT

The “Provincial plan to protect urban waste collection systems from raids by large carnivores”, drawn up by the Agenzia per la Depurazione and approved with **Provincial Government Resolution no. 694 of 17 May 2024**, implementing the provisions of the Addendum to the 5th update to the **Provincial Waste Management Plan**, provides for the planning of action subdivided into three phases, indicated as priorities A, B and C:

- **Priority A** (funding granted by ADEP in 2024): urgent work in areas exposed to the greatest risk of raids by large carnivores and mostly regarding domestic users;
- **Priority B** (funding granted by ADEP in 2025): for areas exposed to the risk of raids by large carnivores and for non-domestic users;
- **Priority C** (funding that will be granted by ADEP in 2026): for areas exposed to a medium risk of raids by large carnivores, represented as priority 2 areas in the Addendum to the 5th update of the Provincial Waste Management Plan.

Situation on 31.12.2025

Priority A

The provisions related to priority A in the plan were adopted by ADEP by **2024** for an amount of € **1,745,383.76**. The funding granted was linked to the completion of:

- **18 waste disposal centres** for all categories of waste, made up of a total of
- **103 semi-underground** containers with a capacity of 3/5 m³ (Photo 2);
- **1 recycling depot** (Photo 3);
- **185 bear-proof structures** for **organic waste** with 120/240 l containers (Photos 1 and 4).

The work was carried out during 2024 and 2025 and it still partly ongoing.

Beneficiary organisations:

- Municipalities: Madruzzo, Vallelaghi, Cavedago, Spormaggiore, Fai della Paganella, Andalo, Molveno, Trento;
- Comunità di valle: Val di Non, Val di Sole, Alto Garda, Vallagarina, Giudicarie.



Photo 1 - Three bear-proof structures covering 120 l organic waste containers in the Municipality of Trento; work carried out by Dolomiti Ambiente srl.

Priority B

The provisions related to priority B in the plan were adopted by ADEP in 2025 for an amount of € 2,400.000.00. The funding granted was linked to the completion of:

- **28 waste disposal centres for all categories of waste**, made up of a total of

103 semi-underground containers (with a capacity of 3/5 m³);

- **157 bear-proof structures for organic waste** with 120/240 l containers;
- **3 bear-proof collection points** for mountain refuges at high altitude.

The work will be carried out during 2026.

Beneficiary organisations:

- Municipalities: Molveno, Vallelaghi, Andalo, Fai della Paganella, Cavedago, Terre d'Adige, Spormaggiore, Cavedine, Madruzzo, Trento;
- Comunità di Valle: Val di Sole, Giudicarie.

To summarise, **by the end of 2026, western Trentino** will be equipped with secure systems (**Priority A + Priority B** funding) for:

- **46 waste disposal centres** for all categories of waste, made up overall of **250 semi-underground containers** (with a capacity of 3/5 m³);
- **342 bear-proof structures for organic waste** with 120/240 l containers;
- **3 bear-proof collection points** for mountain refuges at high altitude;
- **1 bear-proof recycling depot.**



Photo 2 - Waste disposal centre made up of 7 semi-underground containers in the Municipality of Fai della Paganella; work carried out by A.S.I.A. srl.

Priority C

During 2026, ADEP will grant further funding to protect urban waste collection systems from raids by large carnivores, extending the work to **eastern Trentino, in addition to western Trentino.**

The work should have concluded by the end of 2027.



Photo 3 - Recycling depot in Val di Tovel, in the Municipality of Villa d'Anaunia; work carried out by the Comunità della Val di Non.



Photo 4 - Two bear-proof containers covering 240 l organic waste bins, at a public venue in Val di Tovel, in the Municipality of Villa d'Anaunia. The work was carried out by the Comunità della Val di Non.

3. MANAGEMENT OF EMERGENCIES

In the **province of Trento** the management of emergencies represents a field of action in which it has been necessary to operate for some time, given the presence of individual **bears** described as “**problematic**” on the basis of current legislation. A **special emergency response team** has been operational in this field **since 2003**.

The **PACOBACE (Interregional Plan of Action for the Conservation of the Brown Bear in the Central-Eastern Alps)** represents the document of reference for the management of emergencies in the province of Trento (as in Friuli Venezia Giulia, Veneto, Lombardia, Piemonte and the Autonomous Province of Bolzano), on the basis of which APT has identified, trained and equipped special staff.

A **problematic bear**, or one found in critical situations, may be subjected to **controlling action (including possible lethal removal)** in accordance with the provisions of European regulations (Directive 92/43/EEC – Habitat Directive). Based on **Provincial Law No. 9/18** and subsequent amendments, the **President of the Province is responsible for authorising exceptions to the ban on controlling actions such as the removal, capture or killing of bears or wolves with a decree, according to the aforementioned European regulations**, after having consulted ISPRA. This law has been deemed valid by the Constitutional Court.

In the event that safety and **public security** is at imminent risk, the capture or killing of an animal can also be ordered **with an extraordinary emergency order of the President of the Province** or of other **authorities with jurisdiction for public safety**, according to articles no. 52.2 of the Decree of the President of the Republic of 31/8/1972, no. 670 and no. 18.2 of the Regional Law of 4/1/1993 no. 1, as specifically also provided for by the **PACOBACE**.

Operational management is based on the use of specialist staff from the **Provincial Forestry Service (PFS)** making up of a special unit on call. The system of on-call availability involves weekly shifts and is operational from **1 March to 30 November**.

The team is made up of a coordinator and two emergency staff (on call 24 h/day), along with **veterinary staff assigned** by the province’s **Azienda Sanitaria Universitaria Integrata del Trentino (ASUIT)**.

As regards action to **deter wolves** showing particular habituation to man or repeatedly visiting urban areas (potentially dangerous), reference is instead made to the **protocol of action drawn up by ISPRA** on the basis of the technical documentation provided by the **LCIE (Large Carnivore Initiative for Europe)**, which codifies undesirable behaviour and the conditions necessary to implement deterrents and removal (***Experimental protocol for the identification and management of urban and overconfident wolves*** - ISPRA - December 2024).

Problematic animals

Brown bears

In **2025 there were no clear cases of the behaviour stated in items nos. 13, 14, 15, 16, 17 and 18 of Table 3.1 of the PACOBACE** (problems linked to: repeated entry to residential areas, repeated damage to assets impossible to defend, following people, attempting or effectively entering dwellings, or attacks on humans).

Nor were any false attacks recorded (item no. 11 in Table 3.1 of the PACOBACE) during 2025.

It is likely that this situation was partly due to the fact that in **2024 all the 3 problematic bears** reported according to the definitions stated above were **promptly removed** by lethal removal, applying the provisions of the PACOBACE. It goes without saying that **new animals representing a danger or causing serial damage may appear** in the future, regardless of all the prevention and communication activities put into effect, and that it may once again be necessary to **apply all the provisions of the PACOBACE**, without exception. On **19 July 2025, the female bear JJ4** was transported from the **Casteler enclosure** to the “**Alternative Park for bears and wolves in the Black**

Forest”, in Germany, with the goal of progressively restoring the original role of the Casteler area for bears in Trentino, intended for wounded animals or those in difficulty and not for the permanent captivity of **wild** animals.

Wolves

In **2025**, there were **21 call-outs** aimed at **protecting** urban areas or **detering** overconfident wolves. In **4 cases** it was possible to carry out **deterrence** using **rubber bullets** (2) and **vocal commands** (2), coming into close contact with the animals.

Online maps

In 2025 the geographical position of **bears with radio collars** was again made available, through an **online map** (<https://grandicarnivo-ri.provincia.tn.it/Comunicazione/MAPPA-OR-SI-RADIO-COLLARATI>), which was **regularly updated** (without being excessively precise, in order to protect the animals), for the benefit of all those visiting the mountains.

Another online map contained reports of **female bears accompanied by cubs** (<https://grandicarnivori.provincia.tn.it/Or-se-con-piccoli/MAPPA-SEGNALAZIONI-2024>), with the scope of raising awareness and offering an additional tool for preventing potential incidents following close encounters.

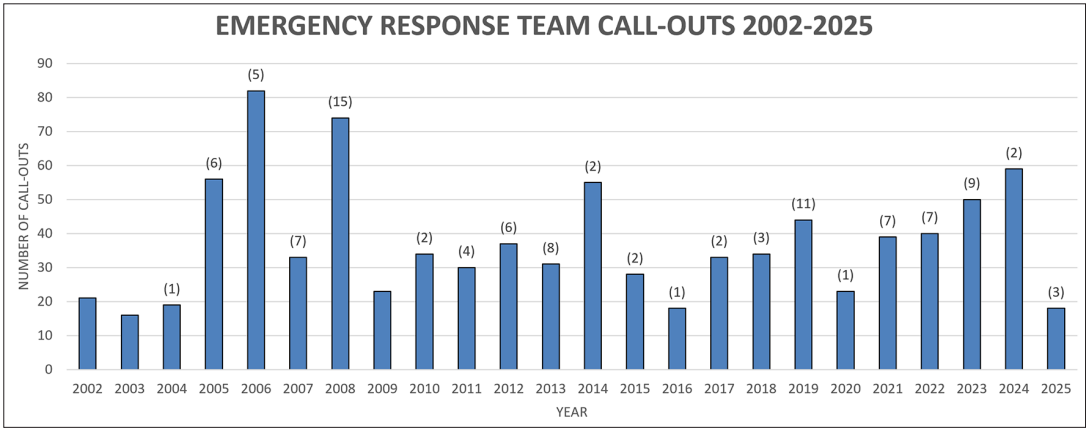
Activities of the emergency response team

In 2025, the emergency response team was called out **18 times, all in relation to bears** (Graph 9), **10** of which were given **code white** status (operations to search for people or not requiring deterrents), **4 code yellow** (possible deterrents) and **4 code red** (operations providing for the possibility of directly handling/killing the bear).

Capture of bears

In **2025, one capture of a bear** was carried out. On the night of **23/24 August 2025**, in the Municipality of **Spiazzo**, the adult female bear **F3** was captured while free ranging, in the context of management following a road accident (see Box 12). The number of **captures of bears** taking place **since 2006** (involving **40 different animals**) has therefore risen to **60** (35 females, 23 males and two of undetermined sex, as they were immediately freed without handling). **41** of these 60 captures were carried out with **tube traps**, **11** on **free-ranging bears**, **4** with an **Aldrich snare** and **4** **manually** (for cubs born that year).

Graph 9



Box 12 - Recovery, rehabilitation and release into the wild of the female bear F3

Shortly after 11 pm on **23 August 2025**, a motorist **hit a bear** on the SS 239 road, near the small church of Sant'Antonio Abate in the Municipality of **Spiazzo Rendena**. Following the violent impact with the vehicle, the animal remained on the road for a while, to then move away. Volunteer firefighters from Spiazzo, intervening immediately and then joined by two Carabinieri patrols and the CFT emergency team, reported that the bear was hiding in a nearby cornfield. The plants prevented the forestry emergency team and the vet from safely assessing the condition of the animal, whose position was initially only estimated. The animal was lying a few metres from a cemetery, a few dozen metres from a very busy road in a suburban environment. The condition of the bear needed to be verified, to evaluate its possible return to freedom in the wild, or alternatively to proceed with euthanasia of the animal. Using an **extendable ladder** belonging to Tione volunteer firefighters (Photo 1) it was possible to observe the animal from above, estimate its weight and confirm it was in a state of shock. It was therefore sedated by forestry staff in the emergency response team (Photo 2).

The bear was an **adult female without cubs**, shown to be **F3**, aged 17, following genetic testing. **The bear was transferred to the Casteller wildlife enclosure**, to assess the evolution of a **clinical situation difficult to interpret at the time**, with a view to possible **recovery and release into the wild** (Photo 3).

After the transfer to a den in the enclosure, the bear's state of health was shown to be significantly compromised, but it was concluded that the animal could recover and



Photo 1 - Operation to anaesthetise F3 using the volunteer firefighters' extendable ladder (M. Zeni - APT Wildlife)



Photo 2 - The anaesthetised bear during recovery (M. Zeni - APT Wildlife Department archives)



Photo 3 - The bear in a den at the Casteler enclosure. (F. Franzoi - APT Wildlife Department archives)

return to life in the wild, if she overcame the initial difficult period. In subsequent days, feeding and daily checks on the animal were entrusted to the warden at Casteler, who also deals with the other bear present (M49). The **health** of the animal was constantly monitored by the vet.

After a few days the bear began to **feed regularly**, while still having evident motor difficulties, which prevented her from putting weight on her left hind foot. After the first days confined to the den area, the bear was also allowed access to a small external area, to give her the chance to move around more and make use of a tank to bathe (Photo 4).

The animal's behaviour was also monitored using a camera trap, showing improvements in motor activity as the days passed, but at the same time possible worsening of the left hind paw, making it necessary to again



Photo 4 - The bear bathing in the tank outside the den (P. Zanghellini- APT Wildlife Department archives)

sedate the animal to **check and stabilise the injury**. The operation was successful and the clinical situation improved.

F3 remained in captivity from 24 August to 6 October, for a total of 43 days. After having been **anaesthetised** and equipped with a **radio collar** – which she unfortunately managed to remove a few hours after her release – and **ear tags**, **the bear was released** (Photo 5) in an isolated area on the **left-hand side of Val Rendena, in the same Municipality** where she was found injured. Her home range is known thanks to many years of genetic sampling, undoubtedly not due to unwelcome behaviour by the bear, which had been elusive throughout her life and had not caused any damage.

At the time of release, the bear was **in good health**. Despite the loss of the radio collar, in the subsequent period her presence was first presumed, thanks to a mobile phone video and **footprints in the snow** showing a limp, and then **confirmed genetically** on **28 November**.

Photo 5 - Release of the bear (R. Guadagnini, APT Wildlife Department archives)



Road accidents involving bears

Road accidents involving bears represent **potential emergencies**, as injured bears remaining close to roads can be **dangerous**. For this reason, all reports of accidents require immediate verification by the emergency response team and the dog unit.

In **2025**, there were **6 road accidents** involving bears in the province of Trento (Table 5), bringing the total number of such events **recorded to date to 80**. The drivers and passengers involved did not suffer any physical harm.

Table 5

NO.	DATE	LOCATION	BRIEF DESCRIPTION OF EVENT AND RESULT OF ACCIDENT	GENETIC IDENTIFICATION OF BEAR HIT
1	8 June 2025	S.S. 44 bis, loc. Due Laghi	Cub born during the year, female daughter of the female bear with radio collar F7. Died.	F103
2	20 June 2025	S.S. 43, loc. Faé, Cles	The bear moved away and survived (subsequently sampled genetically).	F60
3	22 June 2025	S.S. 237, loc. Ponte Arche, Comano Terme	The bear moved away.	Not identified
4	23 August 2025	S.S. 239, loc. Chiesa di S. Antonio Abate, Spiazzo	Adult female seriously injured, recovered and released into the wild after rehabilitation (see Box 12).	F3
5	25 september 2025	Loc. La Cros, San Lorenzo Dorsino	Presumed cub born during the year, moved away (another cub also sighted).	Not identified
6	18 november 2025	S.S. 421, loc. Paludèle, Spormaggiore	The bear moved away.	F102

Activities of the Bear Dog Unit (NCCO)

The **Bear Dog Unit** (Photo 18) has by now been active for **nineteen years** and in 2025 there were **19 operations** linked to the **management of large carnivores** in the province. There was a fall in the number of operations compared to the previous year (when there were 42), in line with the reduction in problems recorded.

There were **5 operations** to secure the sites of road accidents involving bears and surrounding areas, in order to ensure public security and the safety of individuals. **In a further case** the intervention of dogs **was not necessary**, as the injured bear was immediately identified and subsequently the object of a specific recovery operation to transfer it to a place of confinement for the appropriate treatment. In the remaining cases, evidence found at the scene – thanks also to the tracking work carried out by the Unit's dogs – made it possible to establish that the animals involved all moved away autonomously.

In 2025 the dog unit also intervened on **4 occasions** to reconstruct the dynamics of **human-bear interaction**, in cases when **bears were present in urban or suburban areas**. In this context, thanks to the finding of organic samples, the operation was again shown to be a useful aid for the identification of the animals involved.

There were only **2 deterrent operations** in 2025, neither of which led to contact with the bear. This fall can be attributed to the substantial absence of problematic/overconfident bears in 2025, namely the sort of bears at which the deterrent action of Dog Unit is normally directed.

In addition to the operations stated above, there were **2 inspections** to reconstruct the dynamics relating to the fate of **2 bears found dead**.

During 2025, following the training programme carried out, the **dog Scar** - a West Siberian Laika – became an **effective member of the Unit**.

Lastly, the usual **training activities** continued in 2025.



Photo 18 – Two dog units in Trento for the festivities linked to St. Gualberto, patron saint of foresters (C. Osler - APT Wildlife Department archives).

4. COMMUNICATION

Evening sessions and meetings

Table 6 lists the meetings/evenings organised by the Wildlife Department in 2025.

The meetings were organised in response to local requests for information and dialogue.

Table 6

TYPE	DATE	VENUE	NO. OF PARTICIPANTS
Consorzio Difesa Produttori Agricoli: management of large carnivores in the APT	07/02/2025	Malè	28
Consorzio Difesa Produttori Agricoli: management of large carnivores in the APT	20/02/2025	Tione	26
Consorzio Difesa Produttori Agricoli: management of large carnivores in the APT	21/02/2025	Tesero	32
Human-bear interaction: rules of conduct. Madonna di Campiglio Tourist Promotion Office	28/02/2025	Madonna di Campiglio	6
Biology, status and management of large carnivores in Trentino. Pupils at the ENAIP vocational institute in Tesero	29/02/2025	Tesero	30
Human-bear interaction: rules of conduct. Department of Culture, Tourism, Promotion and Sport, Protection and Conservation Office	26/03/2025	Trento	51
Human-bear interaction: rules of conduct. Arco Scout group	03/05/2025	Trento	30
The return of the bear: biology, history, management & coexistence. "Into the Wild - Lavis" group	25/05/2025	Spormaggiore	20
Human-bear interaction: rules of conduct. Liceo delle Arti "Depero" school in Rovereto	05/06/2025	Rovereto	25
Biology and ethology of bears and wolves, management activities and interaction with man. Conference of vets at Stelvio National Park	06/06/2025	Cogolo	60
Interaction with large carnivores and how best to behave. 4th Mountain Medicine Conference in Trentino	14/06/2025	San Giovanni di Fassa	25
Human-bear interaction: rules of conduct. Workers at the Mountain Basin Department	03/07/2025	Trento	30
Human-bear interaction: rules of conduct. Workers at the Mountain Basin Department	09/07/2025	Trento	25
Human-bear interaction: rules of conduct. Workers at the Mountain Basin Department	10/07/2025	Trento	23
Good practice for coexistence with bears. Bologna Scout camp. Malga Fazzon	21/07/2025	Pellizzano	100
Biology and ethology of the brown bear. Management activities and interaction with man. Stelvio National Park	24/08/2025	Bormio	33

Information regarding large carnivores. Wildlife Department stand at the Civil Defence Fair	18e19/10/2025	Trento	-
Joint meeting with mayors and municipal councillors from Upper and Lower Valsugana	20/10/2025	Borgo Valsugana	180
Forests, wild ungulates and large carnivores. Paneveggio state forest; Forestry Science students from the University of Bologna	28/11/2025	Loc. Paneveggio, Predazzo	20

Bear safety signs

Since 2015, western Trentino has been equipped with informative signs explaining **how to behave in areas where brown bears are present**. In the last few years, these panels have been **renewed** to bring them into line with the most recent guidelines and standards used at international level, and to make them **more effective**. All the information given on the signs is in **two languages** – Italian and English – and the single emergency **contact number** has been updated, adding a **QR code** making it possible to learn about the behaviour to adopt in areas where brown bears are present. The new appearance of the signs recalls those already in use abroad, with **black text on a yellow background** and simplified graphics, designed to attract greater attention and more effectively convey the message.

There are currently **three types** of bear safety signs distributed in the province, by now in a relatively widespread manner. The first, a **medium-sized** sign, has replaced those previously installed since 2015. With the replacement of existing signs and the installation of new ones, there are now **around 650** such signs across the area (Photo 19). Positioning of these panels was carried out by **Trentino Forestry Service**, which also deals with **checking** and **replacing** them if they are stolen or tampered with (to date, **around 30%** of the signs have been **stolen** or **tampered with** on at least one occasion, with a maximum of five consecutive episodes at the same location).

The second type consists of **larger signs**, measuring 190x80 cm, designed for places with heavy tourist flows in strategic positions, such as **hilltop car parks** at the point of departure for the most popular excursions. There are 85 of these panels, positioned by workers from **SOVA (Occupational Support and Environmental Improvement)** between autumn 2024 and summer 2025 (Photo 20). Lastly, there is a **third type** of sign, **smaller in size**, designed for the footpath network. **SAT (Società alpinisti Tridentini)**, in consultation with the Wildlife Department, is responsible for the positioning these signs, thanks to the work of volunteers from provincial branches in western Trentino. Around **200 signs** have initially been put up on SAT poles during 2025, while others are planned for the next spring-summer season.



Foto n. 19 - Medium-sized sign warning of the presence of bears. (M. Zeni - APT Wildlife Department archives) PAT)



Photo 20 - A Japanese crew filming a sign warning of the presence of bears in the Paganello ski district. During the summer the area is very popular with tourists, walkers and downhill mountain bikers. (M. Zeni - APT Wildlife Department archives)

Press releases and council questions

With the support of the Press Office, **52 press releases** were issued, of which **25** concerning **bears**, **13** **wolves**, **3** **jackals** and **11** **large carnivores** in generale.

There were **three council questions** referring specifically to large carnivores: **two** regarding **bears** and **one** regarding **wolves**.

Large Carnivores Working Group

The **Large Carnivores Working Group** was set up by the Provincial Council with Resolution no. 794 of 31 May 2024. It is **chaired by the councillor** responsible for the management of large carnivores and is made up of representatives of the Council of Local Authorities, Adamello Brenta Nature Park, environmental associations, hunting associations, economic and interest groups and the tourist sector. For matters relating to wolves, it is supplemented by further representatives from the Council of Local Authorities and Paneveggio Pale di S. Martino Nature Park.

The **Working Group** met **three times**, on **20 February**, **20 May** and **16 September 2025**.

Communication and environmental education activities regarding large carnivores carried out by SAT - Committee for Protection of the Mountain Environment

By SAT's Committee for Protection of the Mountain Environment (TAM)



In 2025, the informative activities carried out focused mainly on **responsible use of the mountain environment** and mountain tourism, promoted in various different ways. Events dedicated to **large**



carnivores, requested mainly by the branches, were naturally not lacking, along with participation at a number of events on the subject. A summary of the initiatives follows.

18/02 – Informative evening: **A Biography of the Bear**. The story of reintroduction to the Alps; CAI Vicenza (activity carried out together with CAI's Large Carnivores Group);

12/03 – Screening of the film **"Wild Lynx"** and chairing of the subsequent debate at the Cinema Modena in Trento (activity carried out together with CAI's Large Carnivores Group and the Coexistence Festival);

21/06 – Presentation of the **2024 Large Carnivores Report** in cooperation with WWF Trentino and 'Io non ho paura del lupo';

03/07 – Evening event entitled **"Humans and Large Carnivores in the Alps"** in the context of the "Ritmo dei passi" initiative (www.ritmodeipassi.it), organised in cooperation with the Fondo branch of SAT and AGESCI TAA (activity carried out together with CAI's Large Carnivores Group);

14/07 – Presentation on large carnivores for the school camp organised by the **Associazione Nazionale Alpini** at Viote del Bondone;

28/07 – Screening of the film **"Wild Lynx"** and chairing of the subsequent debate during

Mountain Week organised by the Ledrense branch of SAT.

Other events:

09/07 – **"Awaiting the Coexistence Festival"** guided walk in cooperation with Vanoi Ecomuseum;

From 05/09 to 07/09 – **Coexistence Festival in Val Canali** (also supported and sponsored by SAT).

5. TRAINING

Correct management of large carnivores is inextricably linked to the availability of **specially trained staff**, prepared to deal with any problems of a technical and non-technical nature that may arise during activities in the field, above all as regards the management of emergencies, damage management and monitoring. Training represents one of the six programmes of action referred to in the pre-

viously mentioned provincial government resolution no. 1988 of 9 August 2002.

Over time, training has also been progressively extended to **personnel outside the provincial administration**.

The following **training events** were organised during **2025** (Table 7).

Table 7

TYPE	DATE	VENUE	PARTICIPANTS
Management of prevention works: for prevention coordinators Management of prevention works: for prevention coordinators	12/02/2025	Trento	20
Training sessions for the staff of Forestry District Offices (FDOs.)	04/03/2025	Pergine	15
Training sessions for FDO forestry staff	06/03/2025	Malè	25
Training sessions for FDO forestry staff	11/03/2025	Cavalese	20
Training sessions for FDO forestry staff	13/03/2025	Tione	12
Training sessions for FDO forestry staff	18/03/2025	Trento	35
Training for inspectors of damage by large carnivores	02/04/2025	Trento	15
Human-bear interaction: rules of conduct. Training for the staff of Folgarida Marilleva lift system	05/06/2025	Folgarida	90
Training directed at forest wardens	11/09/2025	Malè	30
Training directed at forest wardens	02/10/2025	Tione	28
Training directed at forest wardens	16/10/2025	Rovereto	30
Training directed at forest wardens	28/10/2025	Cavalese	25
Training directed at forest wardens	04/11/2025	Trento	28
Training directed at forest wardens	20/11/2025	Borgo Valsugana	27
Training directed at Forestry Service Carabinieri, the provincial police force and vets from the Province of Brescia	24/11/2025	Brescia	90
Training directed at mountain guides and mid-mountain guides in Trentino	24 novembre 2025	Lavis	60



Foto n. 21 - Formazione del personale forestale PAT presso il Centro Vivaistico Forestale di Casteler, Trento. (M. Zeni - Archivio Servizio Faunistico PAT)

6. NATIONAL AND INTERNATIONAL NETWORKING

Networking with neighbouring regions and countries takes on **strategic importance** in the management of highly mobile species such as the brown bear, wolf and lynx. Bearing this in mind, relationships with other countries and regions have long been established and have been strengthened and consolidated over time. **National and International Networking** represents one of the six programmes of action in the previously mentioned provincial government resolution no. 1988 of 9 August 2002.

The Alpine Convention Large Carnivores Platform

2025 saw continuation of the activities of the **Alpine Convention Large Carnivores Platform (WISO)**, set up in 2009, where the **Autonomous Province of Trento** is also represented within the Italian delegation. In 2025, the Platform was chaired by Slovenia and specifically by the Slovenian Forestry Service. The platform met **online on 18 June 2025** and face-to-face in **Augsburg (D)** on **5 and 6 November 2025**.



The Arge Alp working community

2025 also saw the continuation of activities to share information and management methods for large carnivores between 10 alpine regions in the context of Arge Alp. During the presidency of APT, on **24 October 2025**, the Province adopted the **resolution “Strategies for standardised manage-**

ment of action directed at monitoring, management of damage and emergencies, and communication regarding large carnivores”. Among other things, this extended most of the management actions already shared between members of the working community in relation to wolves to the management of bears.



Activities within the Large Carnivores Initiative for Europe (LCIE), the International Bear Association (IBA) and the “Bear Specialist Group” of the International Union for the Conservation of Nature (IUCN)

In 2025, the staff of the provincial administration again participated in the activities of **LCIE (23 April 2025 online and from 10 to 13 November in Thessaloniki, Greece)** and **IUCN’s Bear Specialist Group**.



Other opportunities for networking outside the province

Participation as invited guests at the final **Conference of the Life ARCPROM project “Improving human-bear coexistence in 4 National Parks of South Europe”** held in **Larissa in Greece, 25-27 February 2025**.

Visit from a **South Korean delegation** (National Parks Department, South Korea) responsible for

management of the Asiatic black bear, present in **Trento from 2 to 5 September 2025**.

Participation as invited guests at the **7th International Human-Bear Conflict Workshop** in Kalispell, Montana, USA, **5-10 October 2025** (Photo 22).

Annual meeting with colleagues from **Abruzzo, Lazio and Molise National Park**, held in **Pescasseroli (AQ), 17-19 November 2025**.



Photo 22 - 7th International Human-Bear Conflict Workshop, Kalispell, Montana, USA. (E. Graham – APT Wildlife Department archives)

7. SUMMARY

- **Status of bear population: 13 litters** recorded in 2025, with **25 cubs**. **4 bears died**: two were killed illegally, 1 (cub born during the year) was hit by a car, the fourth was probably killed by poachers. **Population estimate in 2025: 118 animals**, excluding cubs born during the year (confidence interval **99-141**).
- **Trend for bear population: growth until 2023**, essentially **stable** or with **slight growth** in the **last two years**.
- **Distribution of bears**: individual **males** over a vast distribution area (19,375 km²) from Piemonte to Friuli Venezia Giulia and from the foothills of the Alps in Lombardy to Tyrol in the north. **Females** over an area of 2,805 km²; in the last few years, the females' distribution area has been confirmed to be **constantly increasing**.
- **Level of inbreeding: increasing** (as expected) but **not yet critical**.
- **Status of wolf population: 22 packs** estimated to be present, with at least 20 breeding in 2025; **27 wolves** found **dead**, of which 12 due to road accidents, 3 probably due to road accidents, 1 lethally removed, 4 due to natural causes and 7 of unknown causes. **The population** appears to have **declined compared to 2024**; further **spatial expansion**.
- **Distribution of wolves: 12 packs** in **eastern Trentino** and **10** in **western Trentino**; the area in south-west Trentino still without ascertained packs has grown smaller. Compared to 2024, **four packs** present in the area straddling the **northern border** of the province are **absent**.
- **Predation/consumption of wild animals by wolves: 487** consumed prey found in 2025 (**245 roe deer, 180 red deer, 47 chamois, 9 mouflon and 6 others**).
- **Status of lynx population**: no animals recorded in the province in 2025; last certain report in spring 2022.
- **Status of golden jackal population: presence probably increasing** with distribution over much of the province. **4 breeding groups** ascertained (in the Municipality of Ville di Fiemme in Val di Fiemme, the Fivà/Lomaso area, the Municipality of Arco and the Municipality of Madruzzo).
- **Damage by bears: 127 cases**, with around **91,000 euro** in compensation paid (14% beekeeping, 45% agriculture, 18% livestock, 23% other assets).
- **Damage by wolves: 155 cases**, with around **135,000 euro** compensation (all for livestock).
- **Number of livestock preyed on (killed, injured or lost): 478**, of which **438 by wolves** and **40 by bears**. A further 136 small courtyard animals (chickens and rabbits) were preyed on by bears.
- **Trend for damage by large carnivores: decreasing for bears** in the last 5 years, despite the increase in population, while essentially stable for **wolves**.
- **Prevention works: 155 new works** (electrified enclosures) distributed/funded, with an investment of **98,150 euro**.
- **Guard dogs: 3 new dogs** funded, with 2,120 euro invested; **102 dogs in total** have been funded to date by APT. Further information panels provided.
- **Support for animal husbandry: 30 mountain pastures** followed directly by the prevention coordinators, **11 accommodation units transported** to the mountains by helicopter for the summer and **3 further permanent shelters** for shepherds built/renovated; the **total** to date stands at **12**.
- **Bear-proof waste bins**: implementation of the **provincial plan** to protect urban waste collection systems from raids by large carnivores continued as scheduled in 2025. **By the end of 2026** in western Trentino this will see: **46 waste disposal centres**, made up of a total of **250 semi-underground containers**, **342 bear-proof structures** for organic waste, **3 bear-proof collection points** for **mountain refuges at high altitude** and **1 bear-proof recycling depot**.
- **Problem animals. Bears: no cases** of the behaviour listed in items 13 to 18 of the PACOBACE

(requiring removal of the animal). **Wolves: one animal lawfully lethally removed** (the first in Trentino, the second in Italy) in order to control a particularly damaging pack in **Lessinia**.

- **Activities of the emergency response team: 18 call-outs** (all regarding bears).
- **Bear captures: 1 capture operation**, regarding the female bear F3, hit by a vehicle.
- **Road accidents: 6 involving bears** (the animals involved moved away, with the exception of one cub born during the year, which died, and the adult female F3, injured, rehabilitated at Casteler and released into the wild); **12 fatal accidents involving wolves**. The drivers and passengers were uninjured.
- **Bear dog unit: 19 operations** carried out, 5 of these to secure areas concerned by road accidents with bears, 4 to search for biological samples and at sites of human-bear interaction, 2 for deterrent activities, 2 to reconstruct dynamics when bears were found dead, and 6 for other purposes.
- **Communication: 18 evenings with the public** organised, **52 press releases** issued, of which **25 concerning bears, 13 wolves, 3 jackals and 11 large carnivores** in general. **3 provincial council questions** answered (2 regarding bears and 1 wolves); new **informative material** produced (several brochures and articles); SAT activities. **85 large panels regarding bears** distributed and/or coordinated in the province, together with c. **650 medium-sized** signs and c. **200 small** signs.
- **Staff training: 16 different initiatives/sessions** organised for over 500 workers in total.
- **National and international networking:** continuation of activities with the **Alpine Convention** (Large Carnivores Platform) and **Arge Alp**. Further activities carried out with **LCIE** (Large Carnivore Initiative for Europe) and the IUCN's **Bear Specialist Group**.

NOTE



AUTONOMOUS PROVINCE OF TRENTO
WILDLIFE DEPARTMENT
Large Carnivores Division
Via G. B. Trener, 3 - 38121 TRENTO

website: grandicarnivori.provincia.tn.it
E-mail: grandicarnivori@provincia.tn.it

EMERGENCY NUMBER: 112