



LIFE Project Number

**LIFE18 NAT/IT/000972 LIFE WOLFALPS EU**

**Coordinated actions to improve wolf-human coexistence at the  
alpine population level**

## **Final Report**

**Covering the project activities from 01/09/2019 to 30/09/2024**

Reporting Date

**25/02/2025**

### Project Data

<b>Project location</b>	Italy, France, Austria and Slovenia
<b>Project start date:</b>	01/09/2019
<b>Project end date:</b>	30/09/2024
<b>Total Project duration (in months)</b>	61 months
<b>Total budget</b>	€ 11,939,693
<b>Total eligible budget</b>	€ 11,939,693
<b>EU contribution:</b>	€ 7,029,000
<b>(%) of total costs</b>	58,87
<b>(%) of eligible costs</b>	58,87

### Beneficiary Data

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## 2. List of key-words and abbreviations

APAC	Ente di Gestione Aree Protette Alpi Cozie (associated beneficiary)
APAM	Ente di Gestione delle Aree Protette delle Alpi Marittime (coordinating beneficiary)
APAP	Ente di gestione delle Aree Protette dell'Appennino Piemontese (associated beneficiary)
APOS	Ente di Gestione Aree Protette dell'Ossola (associated beneficiary)
AREC	Höhere Bundeslehr- und Forschungsanstalt für Landwirtschaft Raumberg-Gumpenstein (associated beneficiary)
CUFA	ARMA DEI CARABINIERI - Comando Unità Forestali, Ambientali ed Agroalimentari (associated beneficiary)
ERSAF	Ente Regionale per i Servizi all'Agricoltura e alle Foreste (associated beneficiary)
EURAC	Accademia Europea di Bolzano (associated beneficiary)
METO	Città Metropolitana di Torino (associated beneficiary)
MUSE	Museo delle Scienze di Trento (associated beneficiary)
OFB	Office Français de la Biodiversité (associated beneficiary)
ONCFS	Office National de la Chasse et de la Faune Sauvage (associated beneficiary)
PNDB	Ente Parco Nazionale Dolomiti Bellunesi (associated beneficiary)
PNM	Parc national du Mercantour (associated beneficiary)
RAVA	Regione Autonoma della Valle d'Aosta (associated beneficiary)
RELI	Regione Liguria (associated beneficiary)
RELO	Regione Lombardia (associated beneficiary)
SFS	Slovenia Forest Service (associated beneficiary)
UL	University of Ljubljana (associated beneficiary)
UNITO	University of Turin (associated beneficiary)
VUW	University of Veterinary Medicine, Vienna (associated beneficiary)
AC	Administration and accounting consultancy support
AR	Administration Responsible
CGC	Centro di Referenza per i Grandi Carnivori (Regione Piemonte)
CP	Common provisions
CFAVS	Upper Susa Valley Forestry Consortium
EC	European Commission
FR	Final Report
GWAG	Genetic Wolf Alpine Group.
ISC	International Scientific Committee
ISPRA	Istituto Superiore per la Protezione e la Ricerca Ambientale
LCIE	Large Carnivore Initiative for Europe
LGD	Livestock Guarding Dog
LWA-EU	LIFE Wolfalps EU
MR1	Midterm Report 1 (05/2022)
MR2	Midterm Report 2 (11/2023)
PM	Project Manager
PR	Project Responsible
RDP	Rural Development Plan
SC	Scientific Coordinator
WAC	Wolf Apennine Center
WACG	Wolf Alpine Communication Group
WAG	Wolf Alpine Group
WATCG	WolfAlps Technical-Conservation Group
WISO	Large Carnivores, Wild Ungulates and Society Working Group (of the Alpine Convention)

## Description of the naming of the annexed files:

The name file of each annex to the Midterm Report 1 are built according the following criterion:

**Annex\_MR1\_ACTION\_TYPE OF PROJECT OUTCOME\_n° annex** as described in the description of each action (Ch. 6.1.1-6.1.27)

For TYPE OF PROJECT OUTCOME, we mean:

**DEL:** Deliverable

**MIL:** Milestone

**ER:** Expected Result

**AR:** Additional Result (i.e., additional outcome not originally foreseen by the Grant Agreement)

e.g.: **Annex\_MR1\_A1\_MIL\_06** means:

Annex of Midterm Report 1 concerning the Action A1 - Milestone - numbered 06 as described in the Ch. 6.1.1. The annexes non-indicating specific actions are referred to general project documents.

### 3. Executive summary

The main goal of the LIFE WOLFALPS EU Project was to **improve wolf-human coexistence at the alpine wolf population scale over 4 countries, by implementing coordinated actions over the entire Alpine ecosystem**, both where the wolf has been present for 20 years (Western Alps) and where the process of re-colonization has recently started (Central-Eastern Alps), based on identified threats for the species, and based on the outcomes and experience of the previous LIFE WOLFALPS Project (2013-2018). The **LIFE WOLFALPS EU** has been carried out over the alpine territory of France, Austria, Slovenia, and Italy (with 20 identified Partners and 119 Supporters), in coordination with Switzerland (by two identified Supporters). The main innovation is the overall approach and coordination, for the first time applied at a wolf population level. Transfer, repeatability, dissemination and development of best practices are the most important aspects of this Project, implemented at a very large scale. Important coordinated conservation actions have been conducted with the main objectives to:

- Decrease the level of conservation and management fragmentation (in response to Threat 1)
- Decrease the level of poisoning and poaching (in response to Threat 2)
- Decrease the conflicts of livestock husbandry through the implementation of effective preventive methods (in response to Threat 3)
- Increase acceptance and knowledge on wolves among hunters, shepherds, local communities, students, and citizens (in response to Threats 3,4,5)
- Contain habitat fragmentation locally affecting wolf road mortality and the loss of suitable habitat (in response to Threat 6)
- Detect and control wolf-dog hybridization events (in response to Threat 7)

The main project activities conducted from 01/09/2019 to 30/09/2024, aimed at addressing the following objectives:

#### **1. Transboundary population-level surveillance, management and conservation of wolves in the Alps.**

This has been successfully started and applied at the wolf population level, over 4 countries (Actions A1, A5, A6, A7, A8, C4, C5), and planned for the long term (Action F2). Actions have been transferred and repeated homogeneously on the large scale. The lack of coordinated activities adopted at the Alpine scale was one of the most crucial challenges of the Project LIFE WOLFALPS EU. The project successfully solved the issue by enriching partnerships with agreements, protocols and/or statements of cooperation with stakeholders, Provinces and Regions, in order to establish a coordinated network among institutions, improving and extending the network to the whole Alpine region. The project **established 119 statements of cooperation and agreements with project Supporters** and **32 forms of Stewardships** developed in the frame of the Action E2.1 (see details the description of this action in the Technical Part, Section 6). We established a tight transboundary network of professionals (Action A1), starting long-term transboundary monitoring (Action A5), and provided first high-quality data about these wolves at population level (Action C4). Within the project, we established 5 international alpine working groups, and a scientific international committee for unbiased implementation of the actions (Action A1), to increase coordination in conservation measures and amplification of positive results. Moreover, a group of national/regional authorities and stakeholders, discussed management options in local and national platforms (Actions A8, E3). As the foundation for population-level management, we designed and started implementing a complex, transboundary, science-based surveillance of the wolf alpine population conservation status (Action C4), by creating a large network of 5574 operators through 123 workshops and 12 training courses, which constitutes a long-term benefit for biodiversity conservation (Action A5). The project produced many best practice documents (Deliverables of actions A2, A3, A5, A6, A7, A8, C1, C2, C4, C6, C7) required for management support. Based on the data collected we detected the first hybrids (Actions A5-A6), 4 have been sterilised and/or removed from the wild (Actions C5). These activities have been conducted at higher intensity in the corridor of entrance to the Alps, to try to control the hybrids' dispersal from the Apennines (Actions C5), however they have been extended to an alpine area in the Turin province, not originally foreseen in the project, but considered as of urgent need for the conservation of the species (so modifications occurred accordingly). Other actions included effective measures against illegal killing and control of poison baits by training and establishing 7 poison-detecting dog units and the maintenance of 4 from the previous project, that are working together, in order to reach out the overall reduction of wolf mortality rate due to poisoning. The activity now covers the entire alpine territory (Action

A3-C2). Mortality risk decrease is also based on the restoration of identified sink areas to reduce car accidents in Val Susa (Italy) (Action C6).

**2. Decrease of human-wolf conflicts.** We characterised the conditions of conflicts and provided practical solutions through best practice guidelines that have been followed over the 4 countries in the Alps (Deliverable A2), and set the basis for dealing with human conflicts in a comprehensive manner. In particular, we developed a new effective livestock prevention approach which consisted in a first-aid model of “Wolf Prevention Intervention Unit - WPIU” that has been tested in A2 action and implemented in Action C1 in each country. 43 WPIU, out of the foreseen 23, have been trained and locally established, covering the majority of the alpine territory of the 4 countries. They acted in hot spot areas of conflict for rapidly implementing preventive tool kits, using ad-hoc optimal preventive strategies based on successful experiences, to indicate the correct use of livestock guarding dogs, evaluate the efficiency and correct implementation of protective measures, providing administrative assistance and active listening with a role of mediators (Action C1). WPIU interventions over the Alps were 1868, overcoming the 812 planned by the Project (through Actions A2, C1). WPIUs were composed of 400 operators trained and 27 workshops/training courses have been organised (Action A2) to prepare the teams and elaborate guidelines for the implementation and replication of WPIU at each national level. Considering the main stakeholders’ groups, other than farmers, we also developed strong partnerships with hunters by involving them in the evaluation of predator-prey-hunters dynamics (Action A4-C3). We developed 4 local predator-prey-hunters’ studies (one in France, two in Italy and one in Slovenia) to evaluate the impact of wolves on prey to make recommendations on how to consider the predation impact in hunting management. Hunters were directly involved so a strong partnership has been created (Action A4-C3). Only in the French study area it was particularly difficult to implement Actions A4 and C3 at the beginning, due to the strong local opposition of the hunting associations, which has been partly overcome in the last 2 years of the project.

**3. Increase knowledge of wolves and promote coexistence.** We explored the attitudes of critical interest groups and the general public towards wolves (Action D1) and we used this information in targeted education and promotion campaigns to improve wolf-human coexistence (Actions E1, E2 and E3). This goal was achieved also by highly innovative kids’ education programs under development (Action E4), a “Life Alpine Young Ranger” special edition (Action C8), and the further development of original ecotourism packages (Action C7), which produces the basis for increasing the perception of wolves as a valuable part of nature. Communication has been a key important part of each C conservation action. In each C action we developed ad-hoc communication campaigns, which started in 2021, followed the implementation of C actions until the end of the project. We developed the “Shared Stewardships” program (Action E2) to promote a participatory approach, with 32 stewardships signed with stakeholders. Inspired by this conception, building on the experience of the first LIFE WOLFALPS project, the communication actions have been based on “shared interests” with public and private third parties to multiply the impact of the project communication with a replication strategy, which proved so far to be successful. Replications have been very well developed in the project as described in chapter 6.4.4. The planning of wolf ecotourism to favour economic sustainability of predator presence (threats 3-4) in Action C7 started in 2020, despite the Covid pandemic. The development of 17 ecotourism packages, involving four tour operators, have been launched, with eight introduced between April 2022 and September 2023. Winter snow tracking and summer pasture visits have been particularly successful, boosting local sustainability, supporting small businesses, and showcasing pastoral activities. These initiatives have engaged 3,264 participants, 33 facilities, and employed 166 people in wolf-friendly ecotourism across the Alps. In newly recolonized areas like Lombardy, this form of tourism has been very innovative. Training and events aimed to establish a lasting wolf tourism tradition with economic and conservation benefits beyond the project’s lifespan. About 10.000 kids have been actively involved all over the Alps (5000 were expected) in the framework of the Young Ranger Program becoming “biodiversity conservation ambassadors”. The initiative aroused great interest among the institutions and the public. In fact, at the end of the project the network included 40 Parks/Museums/Wildlife (Action C8).

Therefore, despite the Covid pandemic period, which caused on average 1 year delay in the conclusion of the A actions, **we evaluated the general the project implementation as very successful since the work of the actions has been implemented as planned, even considering the complexity of the Project**, which involved 4 countries of the Alps and many authorities. In fact, the main problems and challenges met during the beginning of the project implementation were connected to the Covid Pandemic limitations, above all

because they stopped the chance to organise meetings and events in presence. The actions more affected were bound to the practical training performances or field meetings/workshops, e.g. Actions A2, A3, A4 and A7, but these issues were widely overcome and compensated with efforts to achieve the goals as expected. The majority of the preparatory A Actions were completed within the first 2.5 years of the Project (A1, A2, A3, A4, A6, A7) also taking into account the aforementioned delays. Some preparatory actions, instead, were concluded at the end as foreseen by the Project (e.g. A5). The conservation actions (C Actions) started in January 2021, and, due to the Covid pandemic, had a very low level of implementation in the first 6 months of 2021, but ended in 2024 very successfully, with achieved results higher than expected for every action (see details in actions descriptions). Hence, from summer 2021 C actions fully started and results have been fully achieved, based on the outcomes of the preparatory actions (A Actions), and with the constant and continuous support of the dissemination actions developed in synergy (E Actions). The coordination and monitoring activities (F1) were launched on schedule and are discussed both in the Administrative section and in the Technical Part (Section 6).

In conclusion, the present report includes all the details of this discussion, and is organized in the following parts: after a brief introduction to the topic tackled by the project and already summarized in Section 3-4), we describe the **Administrative part and Management System (Section 5)**. In this section the management system of the LIFE WolfAlps EU project is exposed. It follows the **Technical part (Section 6)**. In this section each single activity undertaken is fully reported and outputs achieved have been described. It follows a description of the **Key project indicators (section 7), and the Financial Part (Section 8)**.



## 4. Introduction

The main goal of the LIFE WolfAlps EU project was to facilitate the long-term coexistence of wolves and human activities, by implementing coordinated wolf conservation actions over the entire Alps at the population level.

The project involved four Alpine countries from west to east: Italy, France, Austria and Slovenia, but it also intervened in the area of the Ligurian-Piedmontese Apennines. In fact, although this zone can't be considered as part of the Alps, it represents a fundamental ecological corridor for the Alpine wolf conservation and management. In these alpine Countries, the wolf (*Canis lupus* L.) expanded in the last 3 decades to areas where it was absent for decades, often generating conflicts among interests of different groups of people. In the alpine area, in fact, the wolf was originally extirpated (until the 1920s), but is currently naturally coming back, progressively expanding to its historical area of presence. In the past decades, ecological conditions in Western Europe improved and both wild ungulate and wolf populations increased. The range of wolves along the Apennines Mountains in Italy grew over the years, and finally wolves began naturally recolonizing the southwestern Alps of Italy and France (at the beginning of 1990s) through natural dispersal from the north Apennine wolf population. The wolf population in the Alps is currently expanding both from the West and from the East side and the Apennines and Dinaric populations (separated for about 100 years) are rejoining. The population of wolves in the Western Alps is also expanding towards the lowlands in proximity to the mountain range, where human density is higher and in semi-natural areas near cities.

The project setting is based in order to address **seven identified threats** for the species:

1. high institutional fragmentation in wolf management and conservation actions across the Alps
2. poisoning as an important cause of mortality
3. social conflicts (low acceptance of the species)
4. conflicts with livestock husbandry
5. conflicts with hunters
6. habitat fragmentation
7. hybridization with dogs.

As the Alpine wolf population is managed by different countries with different political, social and legal contexts, one of the main threats to the species conservation was the fragmentation among institutions deputy to wolf surveillance and management. Hence, an optimal coordinated management was made difficult by the high institutional fragmentation across the Alps (**threat 1**). Our project addressed this challenge, pooling many efforts in order to overcome this issue. We established a tight transboundary network of professionals, starting long-term transboundary monitoring and providing high quality data about these wolves at population level. In fact, **the project' actions and the overall organisation of the LIFE WolfAlps EU project**, which is built on a shared and coordinated conservation program implemented within the different administrative divisions in the four Alpine European Countries (working synergically with Switzerland and Germany too), is showing to be effective, also via a transboundary population-level surveillance and management (Actions A1, A5, A8, C4, F1). The Project also targeted the N2000 sites designated for this species in France, Slovenia, Austria and Italy, enforcing the overall alpine Network of Sites, and supporting the management of the Natura 2000 network, also providing direct input for the N2000 bio-geographical seminars (Action C6).

The expansion of the wolf in new zones stood on one side the ecological rehabilitation of the ecosystem, on the other has important social, economic and cultural implications, especially concerning conflicts with livestock, rural populations. In fact, wolf depredation on livestock is considered a recurrent issue where effective prevention systems are the key practices to solve conflicts, but ancient prejudices persist, generating social conflicts (**threats 3, 4, 5**). For this reason, we developed in the project a new effective livestock prevention approach (named Wolf Prevention Intervention Unit - WPIU - Action A2-C1), consisting in a first-aid model, that we implemented throughout the project area, creating also a transferable best practice and replicates all over the alpine countries.

The low level of wolves' acceptance is often on the main cause of poaching, was considered one of the major causes of wolf mortality in the Alps (**threat 2**), as documented in the first LIFE WOLFALPS project for Italy and in every other alpine country, indicating a low level of human acceptance. The most dangerous and commonly used methods cited have been illegal use of poisoning, which cause serious negative effects also on other species, such as small carnivores and scavenger raptors, and on the overall ecosystem. The

project, in fact, implemented a strategy aimed to mitigate and prevent this conservation issue at the alpine scale, through the coordination of the environmental policy of each country, also raising awareness against the use of poison (Actions A3-C2).

Considering the cultural, political and social implication in wolf management, we also explored the public attitudes towards wolves gathering questionnaires throughout the project area (Action D1), to the general public and different stakeholders, and used this outcome for targeted educational and communication activities to enhance knowledge on wolves and promote coexistence (Actions E1-E2-E4-E5-E6), also via a participatory approach toward key stakeholders (e.g. breeders, hunters and teachers/educators) (Actions E3, A8), involving new generations (Actions E4-C8), and developing new forms of wolf sustainable ecotourism (Action C7).

The project dealt with fragmentation and habitat loss which is continuously increasing within the Alps (**threat 6**). Human settlements and the high levels of tourism might affect wolf distribution, and can be particularly harmful if they reduce potential reproductive sites, which are the most vulnerable places for wolves. Reproductive sites are very sensitive to human disturbance, and quiet places are rare in the Alps nowadays, especially due to tourism development and other human activities (e.g. logging, caving, grazing). Therefore, our project aimed to decrease further fragmentation for wolves, in order to enhance a well-connected meta-population able to adapt to climate change and thrive in the dynamic landscape of Europe (see activities and results from Action C6).

One of the main current conservation issues for the wolf is the hybridization with dogs (**threat 7**). Cases of hybridization were detected for the first time in the Alps at the beginning of the project, and promptly managed (Action C5). Our project updated the distribution of the hybridization hotspot areas and defined a strategy that is being now implemented over the Italian Alps in order to mitigate such a threat, acting mainly in the Apennine corridor as the first source zone of hybrid dispersal towards the Alps (Actions A6-C5).

Finally, we can state that our project demonstrated different best practices to favour coexistence during natural wolf expansion in a bio-geographically important part of the EU, the following chapters explain in detail the activities conducted and results achieved.

## 5. Administrative part

### 5.1 Description of the management system

The LIFE WolfAlps EU project involves **4 countries** (Italy, France, Austria and Slovenia and **20 beneficiaries**). For monitoring and managing the alpine wolf population as a unique biological unit, the crucial aim of the project has been to establish, first of all, a good general coordination between the administrative bodies that share the population. The **project has been coordinated** by the Ente di Gestione delle Aree Protette delle Alpi Marittime (APAM), who managed the whole project through a Project Responsible and with dedicated permanent and temporary technical-communication and administrative staff. The role of **Project Responsible** for the Coordinating Beneficiary has been covered by the director, namely Giuseppe Canavese until 31/01/2022 and, after his retirement, replaced by the new director Luca Gautero, from 01/02/2022.

Thanks to his free availability, from 12th April 2022 (Deliberazione n. 13) the Consiglio Direttivo assigned to Giuseppe Canavese a free assistance and support service to the management of the entity, in order to ensure the transfer of skills and experiences to the new director and project responsible. In this context, to Giuseppe Canavese has been assigned the role of Co-Responsible, supporting the project staff and working in close cooperation with the project responsible Luca Gautero for one year.

Following the **Grant Agreement** signature by the European Commission and the Coordinated beneficiary (16/09/2019), a legal support to the cooperation was mandatory. **Internal cooperation agreements** among the coordinator beneficiary and each associated beneficiary were drafted in accordance with the Article II.12 of the Special Conditions, based on the LIFE Guidelines for Partnership Agreements. 18 partnership agreements have been signed by the coordinating beneficiary and the associated beneficiary right after the start of the project (in 2019). They are fully compatible with the Grant Agreement and a copy of them including Special Conditions, General Conditions, Appendix to the Grant Agreement, model of the Financial Statement and Model of timesheet are annexed (**Annex\_MR1\_A1\_08 to 26**). 1 new agreement has been signed with a new associated beneficiary (UNITO), after the Amendment n. 1 to the Grant Agreement (in 2021). During the project implementation, 2 Amendments to the PA between APAM-OFB, 2 Amendments to the PA between APAM-PNM and 1 Amendment to the PA between APAM/UNITO have been signed. **Details and annexes are mentioned in the technical description of Actions A1 and F1 and within Chapter 8.3.**

The activities foreseen in the application forms of the LIFE WOLFALPS EU project are being planned to be implemented in three major phases:

- 1- Preparatory phase.** In management terms, this phase included the development of partnership agreements (already mentioned above – details in Action A1 and Chapter 8.3), the definition of a detailed action plan, the definition of the project's organisation chart and the setting of a Guide on administrative procedures. The **Action Plan** was defined at the beginning of the project for all the implementation period 2020-2024, with the time planning of realisation for each task/activity foreseen per action. It's regularly updated by the reporting responsible of each beneficiary, with the coordination and supervision of the coordinating beneficiary staff. A project's **organisation chart** of the working groups and of the overall project structure, filled with identified responsible for each beneficiary, has been drafted and it is regularly updated. Each partner has a Project Responsible, a Technical-scientific Responsible, a Communication Responsible and an Administrative Responsible. Under the coordination of APAM, personnel work in synergy for the best realisation of the planned activities. Since the beginning of the project some persons changed in the team, but the maximum effort has been spent by all beneficiaries to ensure the continuity of the activities for achieving the expected results as planned. A **Guide of administrative procedures** has been set by the coordinating beneficiary, in order to support all beneficiaries in the administrative and financial reporting. **Details and annexes are mentioned in the technical description of Action A1.**
- 2- Concrete phase.** The implementation of the project started mainly during 2020, after the **kick-off meeting** (Valdieri, 19-21/11/2019 – details in the technical description of **Action A1**) and the partnership agreement signature. **4 Coordinating groups and 1 International Scientific Committee** have been identified as they are fundamental to decrease management fragmentation

(threat n° 1), ensuring a good general coordination between the administrative bodies at national and also international level. Moreover, **specific coordinated working groups** have been set up for the implementation of specific axes of actions. **Details and annexes are mentioned in the technical description of Action A1; updates are mentioned in Action F1.**

For building a close working relationship within and between the members of the group and to list a specific inter and intra group goals and timeline, **thematic meetings** were continuously planned (mentioned in technical description per action). Due to the Covid-19 pandemic restrictions, from February 2020 to April 2022, meetings were mostly held online. Ongoing contacts among staff were also maintained via email and phone.

An **annual meeting among partners** was organised from 2020 to 2023 (before the monitoring visit) for an overall coordination, in order to share the experience of the last months all together, to highlight and discuss any eventual general delay or difficulty and to set up common approaches for the development of the future activities. **Details and annexes are mentioned in the technical description of Action F1.**

The overall **administrative and financial coordination** was granted by the permanent staff of the coordinating beneficiary, working in synergy with the administrative responsables identified by each beneficiary. A strong collaboration between AB and CB has been established, with a committed participation of each AB.. As stated in the Partnership Agreements and in the Guide of administrative procedures, the Financial Statements, with all supporting documents, were sent by associated beneficiaries to APAM on a quarterly basis, via a specific project tool, as explained below, on:

- 20 April (expenditure period from 1 January to 31 March)
- 20 July (expenses from 1 April to 30 June)
- 20 October (expenses from 1 July to 30 September)
- 20 January (expenses from 1 October to 31 December of the previous year).

After each reporting, the CB drafted and sent to each AB a table with Comments on their Financial Statement, in order to facilitate a correct compilation of the report and to track the request of missing supporting documents. The CB stored in a systematic manner all the **Financial Statement and the supporting documents** into the specific project tool named “**Document Storage of the LIFE WOLFALPS EU project**”. It went live from autumn 2022 and it’s available online at the address <https://lwaeu.areeprotettealpimaritime.it> . It is used by all the beneficiaries with individual credentials, in order to ensure the protection of the data contained in the financial documents. The monitor Iva Rossi has got the access and new credentials for monitors and auditors can be created. Moreover, all over the project duration, APAM monitored the **non-substantial changes**, both on a technical and on a financial point of view, in order to:

1. Evaluate their technical sustainability for the action implementation, in order to really provide the project with benefits for the objectives to be reached;
2. Monitor the total amount of the minor changes to the budget estimated, considering the rules imposed by article II.22 of the General Conditions for non-substantial changes (maximum 20% of the overall eligible costs between the different budget categories)

Comments on the Financial report are developed in the dedicated section in **Chapter 8**.

- 3- Evaluation phase.** Evaluation and monitoring of project implementation was continuously and constantly undertaken through actions F1 and F2 and approached with a global vision during the annual meetings. Technical evaluation of project implementation has been scheduled through the implementation of the 3 evaluation actions (D1-D2-D3) and the Key Project-level indicators (KPI). **Details and annexes are mentioned in the technical description of Actions D1-D2-D3 (Chapter 6.1) and in the Chapter 7 (KPI).**

## 5.2 Significant administrative deviations during the reporting period

During the project implementation some changes occurred in the **Legal Representatives** from the ones which signed the Form A4 in 2019. The final table stating the changes is annexed to the report ([Annex\\_FR\\_F1\\_04](#)).

The **Project Manager** Francesca Marucco, hired by APAM in 2019, got a professorship position at the University of Turin, starting from 1<sup>st</sup> of November 2020. After evaluations by APAM and the availability of the University-DBIOS Department, Francesca Marucco has been authorized to carry out for the duration of the project the scientific coordination of the project within the university contract and for a commitment percentage of 50% at 0 costs for the project. This solution allows to maintain a high scientific coordination value in the conduct of all project actions and give full continuity with what has been already conducted. For including the University of Turin (UNITO) within the project partnership, an Amendment to Grant Agreement has been signed (see below). Considering the complexity of the project, the changes in the roles of some people involved in the project as mentioned above (project responsible, project co-responsible, project manager) and the degree of confidence reached between the various people, a **co-management structure** has been identified, as better represented in the organisation chart ([Annex\\_MR1\\_F1\\_01](#), updated in 2023 in [Annex\\_MR2\\_F1\\_01](#) and then finally in the [Annex\\_FR\\_F1\\_01](#)). Primary responsibility lies with APAM (coordinating beneficiary represented by the Project Responsible) and UNITO (Scientific coordinator), in relation to the great scientific relevance of the project at international level. The Administrative Responsible and the administrative staff (permanent staff of APAM), the technical staff (APAM and UNITO) and the Communication Responsibles of APAM and MUSE were also fundamental figures, part of the co-management. All the people collaborate with a such level of harmony that ensures effective progress of the project actions, with particular relevance for the international part.

Due to the **Covid-19 pandemic restrictions**, as described in detail within the technical description per action (Chapter 6.1), the preparatory actions A2-A3-A4-A6 have been postponed and technically concluded with delays and for this reason also administrative tasks have been delayed.

## 5.3 Communication with the Agency and Monitoring team

**Communication with the Agency** was undertaken through formal and informal channels. After the annual monitoring visits (MV1 on 12/06/2020 online; MV2 on 14-16/06/2021 online; MV3 on 26-29/04/2022 online; MV4 13-14/04/2023 online, Joint Visit on 19-21/04/2023 in Slovenia/Italy, MV5 16-17/11/2023, MV6 FINAL 16/09/2024 and Field Visit 17/09/2024), the Agency sent a comment letter. The replies to the requests of clarifications were transmitted to the monitor during the monitoring visits and they were joined to the reports (Chapter 8 of the Midterm Report 1/2022 and Midterm Report 2/2023). The reply to the letter post MV6 FINAL is attached to this Final Report. Other communications, mainly regarding small technical and budget modifications (non-substantial changes), for requesting advice, were dealt by email. All beneficiaries are aware that the final assessment of any change will be done on the occasion of the final project report evaluation.

The great availability of the **project monitor Iva Rossi**, both by phone/online and by email, for dealing any doubt or necessity of advice was a very added value for the coordination of the project and this was very positive for the good implementation of the activities. This method facilitates the maintenance of proper management both from a technical and from a financial point of view in an easier manner. For the 1<sup>st</sup> Midterm Report, fundamental assistance by the Monitor was given for setting and registering the Key Project-level Indicators in the European dedicated platform. Instructions for compiling the final KPI was given by the Monitor during Final Monitoring Visit and assistance was provided until the submission.

From 1/05/2023, some changes at the approach of the external monitoring team consultation took place. The monitor was always the same and the consultation was carried out via the LIFE Monitoring Helpdesk.

The project received **6 monitoring visits**. Due to the Covid-19 pandemic restrictions, the first 3 monitoring visits have been held online on **12/06/2020**, **14-16/06/2021** and **26-28/04/2022**. Fortunately, the 3<sup>rd</sup> monitoring visit in 2022 could end with an in person meeting between project personnel and the monitor during the 2<sup>nd</sup> international thematic conference (within Action E6), that was organised by RAVA in Bard on **29<sup>th</sup> April 2022** (Bold wolves: documented cases, perceptions and management guidelines). The 4<sup>th</sup> Monitoring and Joint Visit on **13-14/04/2023** was held online and continued on the field on **19-21/04/2023**, with the presence of the Project Advisor Anita Fassio in Slovenia and Italy. The 5<sup>th</sup> Monitoring Visit was held online on **16/11/2023** for all partners and in presence at Valdieri (in the APAM headquarters) for the Coordinating beneficiary APAM-UNITO team and the Monitor Iva Rossi. The monitoring visit continued on the field in Chiusa di Pesio (CN) on **17/11/2023**. The final monitoring visit (6<sup>th</sup>) was held online on **16/09/2024** for all beneficiaries and in presence at Torino (in the UNITO headquarters) for the Coordinating beneficiary APAM-UNITO team and the Monitor Iva Rossi. The monitoring visit continued on the field in France on **17/09/2024**, hosted by OFB, at Savoie, Massif des Bauges. **(Details and annexes are mentioned in the technical description of Actions F1).**

## 5.4 The changes due to amendments to the Grant Agreement

At the beginning, the partnership was composed of 19 partners all over the Alps, covering 4 countries. During the project implementation 2 amendments to the Grant Agreement incurred:

**AMENDMENT N. 1:** From 1/11/2020 the consortium was composed of 20 beneficiaries. The Amendment n. 1 to the Grant Agreement ([Annex\\_MR1\\_F1\\_10](#)) has been signed on 8/06/2021 mainly to entry the University of Turin (UNITO) in the project partnership and also for approving the following other changes:

- Office national de la Chasse et de la Faune Sauvage (ONCFS) merged into Office Français de la Biodiversité (OFB)
- Fondation Prince Albert II de Monaco (FPA2) has been added in the financial plan as a new co-financer for APAM 80,000.00 € and for PNM (189,690.00 €)
- the co-financer DREAL-Aura increased its contribution for OFB (already approved for 10,000.00 € with 25,000.00 € additional for the year 2020)
- new legal representative for APAM: Piermario Giordano
- new legal representative for PNM: Aline Comeau

**AMENDMENT N. 2:** On 16<sup>th</sup> December 2021, a letter of Amendment n. 2 to Grant Agreement has been signed in order to modify the bank account details of the Coordinating beneficiary. ([Annex\\_MR1\\_F1\\_11](#))

## 6. Technical part

We evaluated the implementation of the project as very good since the work of most of the actions has been implemented as planned; except for some delays mainly due to the Covid Pandemic, that did not affect the overall progress of the Project (see each Action for details in 6.1). In detail, the Actions A full conclusion has been delayed by a minimum of 4 months to a maximum 18 months. The complexity of the Project, which involved 4 countries of the Alps and many authorities, is the strength of the Project. In fact one of the first major Project success, in relation to the identified threat n.1 "management fragmentation", has been succeeded in creating a cohesive group of 20 Partners and 119 Supporters, who developed coordinated strategies, indication on best practices and guidelines (Deliverables of actions A1, A2, A3, A4, A5, A6, A7, A8, C6, C7, C8, E1, E2, E3, E4), comparative analysis relevant to the proper implementation of actions C (Deliverables of actions A2, A4, A5, A6), and to the evaluation of those (D1, D2) and communication actions coordinated and/or independent if adapted to local realities (E1 Deliverables, E2, E3, E4, E5, E6). This partly due to the work of the two provided groups of technical coordination: WolfAlps Technical-Conservation Group (WATCG), who was responsible for the implementation of actions A, C and D; and the Wolf Alpine Communication Group (WACG), who was responsible for the implementation of actions E and C, in collaboration with the identified "International Scientific Committee" (ISC). The interaction of these two groups and the committee became more and more concrete over the years, thanks to the fact that they regularly met online, by person, and were in constant correspondence throughout several projects' mailing lists. **This allowed the concrete coordination at the alpine international level, and down to the national level, which required personal interactions to consolidate over time.** The full coordination required at least one year to fully be in place at the international level, considering differences of approaches and of legislation and administrative rules. The implementation of the project at the Alpine scale was in coordination, at the local level, by the Alpine Wolf Monitoring Network (created and prepared through Action A5) composed by thousands of operators distributed over the entire Alps, and also by the WPIU teams (created and prepared in Actions A2), and the Stewards (enforced in Action E2). Those Networks, operators and Stewards multiplied project activities and results over the entire Alps. All these in close cooperation with the WACG, who continuously updated the website and social media (Action E1) and promptly disclosed every product and activity of the project actions through press releases at Alpine, National or Local scale (Action E1) on the basis of data and information reported. Please refer to the description of individual actions for the results of the Project, but **here we wanted to emphasise this important goal achieved: the unification of approaches and strategies at the International Alpine scale over the 4 countries, originally highly fragmented.** As detailed below, the delay due to the Covid Pandemic for some Expected Results, Milestone or Deliverables had not compromised the start of any action or the achievement of any objective. Details of specific delays are reported in the description of each action.

### 6.1 Technical progress, per Action

#### 6.1.1 Action A1 - Transboundary cooperation and coordination: establish the international Alpine wolf population working groups

Beneficiary responsible for implementation: **APAM**

Beneficiaries involved: **all Partners**

**The action is concluded, milestones and deliverables have been realized and expected results achieved.**

Coordination is fundamental to decrease management fragmentation (Threat 1). The fundamental goal of setting up the overall international and national coordination of the project has been successfully achieved. On 5-6<sup>th</sup> November 2021 the Project Responsible and the Administrative Responsible of the coordinating beneficiary attended the **LIFE Welcome Meeting of LIFE NAT** and GIE project in Brussels.



### 1) The 5 planned coordination groups have been created

For general coordination each beneficiary has identified ([Milestone, Annex\\_MR1\\_A1\\_01](#)):

- a **project responsible**, making up the so called “**WolfAlps Steering Committee**”
- a **technical\conservation responsible**, making up the **Wolf Alpine Technical-Conservation Group (WATCG)**, responsible for the implementation of A, C and D actions
- a **communication responsible**, making up the **Wolf Alpine Communication Group (WACG)**, responsible for the implementation of E actions
- an **administrative responsible**, making up the **WolfAlps Administrative Group**, which assists the two technical groups.

So, the **Organization Chart** of the Project has been fully defined ([Deliverable, Annex\\_MR1\\_A1\\_02](#)).

Finally, also the 5<sup>th</sup> group “**International Scientific Committee**” (ISC) has been identified ([Deliverable Annex\\_MR1\\_A1\\_03](#)).

2) **Specific coordinated working groups have been set up for the implementation of specific axes of actions** ([Milestone, Annex\\_MR1\\_A1\\_04](#)), both at national level and international level, to guarantee the spatial organization within and among countries. The workflow within and among countries is represented in [Annex\\_MR1\\_A1\\_27](#).

A full **Action Plan** has been prepared, together with a detailed **Timetable**, and the list of meetings planned. The Action plan has been shared online to every partner ([Deliverable, Annex\\_MR1\\_A1\\_5](#)), where a precise program of the activities has been defined from the first year of the project to the end. The Action plan has been a useful tool for the 3-monthly technical reporting under Action F1, where each partner is updating the progress of activities within the action plan every 3 months.

3) **The 3-days kick off meeting** was held in Valdieri at the headquarters of APAM (CN), on the **19-21 of November 2019** ([Milestone, Annex\\_MR1\\_A1\\_06](#)).

The meeting lasted 3 days given the high complexity of the project. All the beneficiaries attended the kick off meeting by at least 2 representatives. During the kick-off meeting all activities to be completed during the first year have been analyzed, the draft of the partnership agreement has been analyzed, and the budget evaluated. A general introduction to the administrative procedures has been conducted and the LIFE program financial and reporting guidelines have been illustrated and discussed: critical rules for financial reporting have been highlighted.



**The Guide on Administrative Procedures** ([Deliverable, Annex\\_MR1\\_A1\\_07](#)) has been prepared in January 2020, and the administrative and financial protocols to carry out the project activities in accordance with the LIFE program rules have been transposed. The Guide has been updated in January 2021 (with more detailed information for staff reporting) and in April 2021 (additional beneficiary UNITO). The last version is annexed.

**All Partnership Agreements have been signed between the coordinating beneficiary and associated beneficiaries** by the date set up by Project. An added Partnership Agreement with UNITO due to the Amendment n. 1 to the Grant Agreement was signed on 30/06/2021 ([Deliverable, Annexes\\_MR1\\_A1\\_08 to 26](#)). During the reporting period Amendments to Partnership agreements occurred, as described in [Chapter 8.3](#). This concluded preparatory action continues in Action F1-Project management. Update of the deliverable and the milestone are included in the description of Action F1.

		2019		2020				2021				2022				2023				2024			
		3 T	4 T	1 T	2 T	3 T	4 T	1 T	2 T	3 T	4 T	1 T	2 T	3 T	4 T	1 T	2 T	3 T	4 T	1 T	2 T	3 T	4 T
<b>Action A1</b>	Proposed																						
	Actual																						



<b>DELIVERABLE</b>	<b>ACTION</b>	<b>EXPECTED</b>	<b>PROGRESS</b>
Organization chart of the 5 groups and of the overall project structure, filled with identified responsible	A1	31/10/2019	Completed 30/11/2019 <b>Annex_MR1_A1_02</b> ISC completed 04/2021 <b>Annex_MR1_A1_03</b>
Detailed project action plan and timeplan for the first year	A1	29/11/2019	Completed 03/2020 <b>Annex_MR1_A1_05</b>
1 detailed action plan of the project for 2019-2020 with a timeplan for implementation of each action	A1	30/03/2020	Completed 03/2020 <b>Annex_MR1_A1_05</b>
Guide on administrative procedures	A1	30/03/2020	Completed 30/11/2019 <b>Annex_MR1_A1_07</b>
18 Partnership agreements + 1 Added agreement due to the Amendment (UNITO)	A1	30/09/2020	Completed 19/05/2020 +UNITO Agreement 30/06/2021 <b>Annexes_MR1_A1_08 to 26</b>
<b>MILESTONE</b>	<b>ACTION</b>	<b>EXPECTED</b>	<b>PROGRESS</b>
Creation of coordinated wolf groups	A1	30/03/2020	Completed 30/11/2019 <b>Annex_MR1_A1_01_</b>
First kickoff meeting with two representatives per each partner institution	A1	30/03/2020	Completed 19/11/2019 <b>Annex_MR1_A1_06</b>

<b>Expected Results</b>	<b>Achieved Results and Status</b>
Specific coordinated working groups have been set up for the implementation of specific axes of actions	Completed <b>Annex_MR1_A1_04</b>
Creation of the International Scientific Committee	Completed <b>Annex_MR1_A1_03</b>
Spatial organisation within and among countries and workflow	Completed <b>Annex_MR1_A1_27</b>

## **6.1.2 Action A2 - Establishment and training of the wolf prevention emergency teams, evaluation of the initial situation and operations strategy**

Beneficiary responsible for implementation: **APAM**

Beneficiaries involved: **all Partners**

**The action was concluded in June 2022; milestones, deliverables and expected results have been finalized and produced as planned.**

Assisting farmers in the use of prevention systems and in taking prompt actions in case of wolf attack is essential to reduce conflicts and economic impact on livestock husbandry (threats 3 and 5). The fundamental goals of identifying good practices in preventive methods, and developing a first-aid wolf prevention intervention units-WPIU operating in each country, **have been successfully achieved.**

**An International Prevention Workshop** was organized in Milano (14/01/2020) to discuss and coordinate on the Actions A2-C1-A7-D1 in connection with E1-E2-E3 (**n. of participants=43; [Annex\\_MR1\\_A2\\_01](#)**), **10 further meetings, not initially foreseen** in the Project have been organized among Partners because they were deemed necessary for a better coordination and implementation of the Action, and **5 Multidisciplinary Working Groups**, composed by different professional roles operators, have been created in **Piemonte, Valle d'Aosta, Liguria, Lombardia and Veneto Regions** to discuss and implement the WPIU activities.

1) **An International Alpine Report on the evaluation of initial situation to focus interventions and ad-hoc optimal preventive strategies in the Alps ([Deliverable, Annex\\_MR1\\_A2\\_02](#))** was written in connection with the WISO platform of the Alpine Convention. In this document, damages caused by large carnivores and damage prevention measures adopted by breeders are described for each Alpine Country. On the basis of the data collected, general recommendations for livestock protection in the Alps are provided. The document was presented during the WISO – 2<sup>nd</sup> meeting in the mandate until the XVI Alpine Conference Online, October 13–14, 2020. **Following the written request of the feedback Agency's letter on the second monitoring visit**, we revised general recommendations for livestock protection in the Alps and the technical guidelines for establishing a reliable protection of livestock.

**A study design on livestock depredations in the areas occupied by transboundary packs of the APAM and PNM has been developed ([Annex\\_MR1\\_A2\\_03](#)).** The aim of the study is to establish if the use of preventive measures, husbandry management, habitat conditions and flock size can affect the number of wolf attacks and victims. Four web meetings between APAM and PNM have been organized to discuss and implement the study design. This study will compare the following three areas of transboundary (France-Italy) wolf packs: 1. Pesio/Tende; 2. Sabbione/Roya 3. Bassa Stura/Isola. The study will be realized and reported in Action C.1 with the support of the WPIU, as acknowledged by the Agency letter of 19/07/2021.

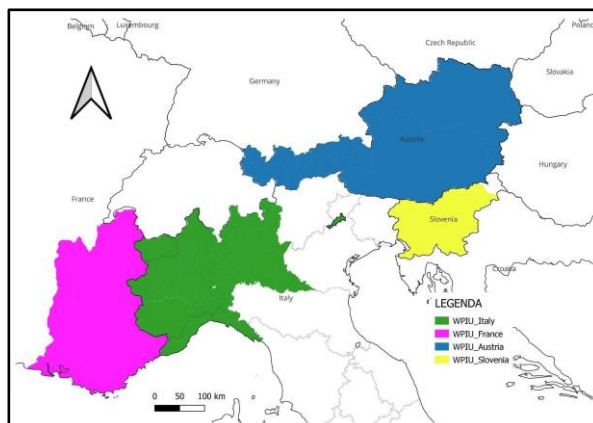
2) **Three field visits among alpine countries to exchange best practices in damage prevention have been organized ([Milestone, Annex\\_MR1\\_A2\\_04](#)):** 1. SFS organized a visit in Switzerland with Agridea on agricultural practices and on damage prevention measures, in particular on livestock guarding dog-LGD (**n. of participants=26**); 2. APAM organized a visit to discuss mainly on cattle prevention methods developed in the first LIFE WolfAlps Project (**n. of participants=32; [Annex\\_MR1\\_A2\\_05](#)**); 3. APAC organized a visit to discuss the most common problems that can occur due to LGD presence on the Alpine pastures and their correct management with cattle and sheep (**n. of participants=47; [Annex\\_MR1\\_A2\\_06](#)**). **An additional field visit** has been organized by ERSAF with Agridea on the main issues of livestock protection. The event was organized in 2 parts: an online seminar (**n. of participants=57; [Annex\\_MR1\\_A2\\_07](#)**) and a field excursion in Switzerland (**n. of participants=30; [Annex\\_MR2\\_A2\\_01](#)**).

3) **The WPIU operating strategy and activity protocol has been developed at the international, national and, for Italy, regional level ([Deliverable, Annex\\_MR1\\_A2\\_08](#)),** in connection with A.7 Action, and **constitutes the best practices to be followed over the Alps.** To produce the document, **7 meetings not budgeted** in the Project have been organized among Partners for better coordination and implementation of activities. The document is composed by a general, common international operative strategy, that is then detailed and adapted at country level and, for Italy, at regional level. It contains a set of directives that establish a routine procedure for field actions to optimize WPIU performance and to allow interventions to be the most suitable for each context. To ensure uniformity of approach and coordination,

and also to solve problems, 4 WPIU national coordinators were identified (one per country). **Following the request by the Appendix to Annex II of the Grant Agreement**, we inserted in the document a **quantitative estimation** of the number of sets of electric fences and livestock guarding dogs to be distributed for each region/country involved. The estimation is used as indicators of the project progress in Action D.2.

The ultimate goal is to create an effective organization, which **will remain active over the long term even after the LIFE Project**.

4) **Forty-three WPIU have been created compared to the 23 expected by the Project:** 29 in Italy, 2 in France, 7 in Slovenia and 5 in Austria (**20 replications; Milestone, Annex\_MR1\_A2\_09**). The high number of WPIU in Italy reflects the high administrative fragmentation of the country, so that comparatively more WPIU are needed to cover the number of organizations locally involved. Instead, France is more centralized and 2 WPIUs are working with a more extended territory, above all the OFB. Each WPIU is composed by operators with different roles in terms of qualifications, depending on the Administrations involved at each country level. To date, the **number of WPIU operators is 351** (215 in Piemonte, 7 by RAVA, 26 by RELI, 5 by PNDB, 11 by RELO, 2 by OFB, 8 by PNM, 16 by AREC, 61 by SFS). The involvement of Administrations is essential to ensure maintenance of the WPIU beyond the end of the Project. **The WPIU concretely operate in Action C.1.**



5) **Thirteen training courses and 14 workshops have been organized to prepare WPIU operators** to intervene in case of wolf depredation on livestock, to propose better prevention strategies and to inform breeders on damage compensation tools and specific funds dedicated to prevention. Due to the Covid-19 pandemic as well as lack of personnel and the extended time needed to draft the WPIU strategy in Lombardia Region, training courses were organized by ERSAF on April 2022. We produced a total of **6 replications** compared to the 12 training courses and 9 workshops expected by the Project (**Milestone, Annex\_MR1\_A2\_10**).

As communicated during the second monitoring visit, the selection of group of volunteers and the 2 training courses for volunteers were moved from Action A.2 to C.1, due to the lack of personnel and the extended time needed to draft the WPIU strategy in Lombardia Region. In the same way, to make the workshops for veterinarians more effective, it was considered appropriate to carry them out on the basis of the results of the first application of the full WPIU strategy and of the redefinition at Regional level of the protocol for damage assessment, currently in the finalisation stage. Therefore, it was more valuable for the project to move the workshops for vets from Action A.2 to Action C.1. The first training course for volunteers was planned in 2022 and the second in 2023, whereas the first workshop for vets was planned in 2022 and the other two in 2023.

6) **A report on the evaluation of positioning systems for an adapted livestock/flock management complementing livestock protection measures and their possible use has been produced by AREC (Deliverable, Annex\_MR1\_A2\_11)**. The aim of the study is to investigate the use of GPS trackers for grazing animals. Animal control is one of the most important tasks of the alpine pasture staff, and searching for animals often causes the largest part of the working time. With the help of satellite-assisted tracking devices, finding the animals should be made easier and the working time for animal control should be shortened. The possibility to detect livestock panic reactions and send an alarm information to the user is also in study. **The study was implemented in Action C.1.**

7) **The specific French study “Analysis of diet for the evaluation of the availability of wild and domestic prey” has been moved and reported in Action C.3.** This is more pertinent because other diet analysis were conducted by other partners in the study areas defined in Action A.4, in the frame of Action C.3. So comparison and interpretation of results fit better in the overall project in this way.

		2019		2020				2021				2022				2023				2024			
		3T	4T	1T	2T	3T	4T	1T	2T	3T	4T	1T	2T	3T	4T	1T	2T	3T	4T	1T	2T	3T	4T
<b>Action A2</b>	Proposed																						
	Actual																						

DELIVERABLE	ACTION	EXPECTED	PROGRESS
Report on the Evaluation of initial situation to focus interventions and Ad-hoc Optimal preventive strategies in the Alps	A2	15/12/2020	Completed 1/10/2020 <b>Annex_MR1_A2_02</b>
WPIU operating strategy, one per country	A2	15/09/2020	Completed 1/10/2020 <b>Annex_MR1_A2_08</b>
Report on the evaluation of positioning systems for an adapted livestock/flock management complementing livestock protection measures and their possible use	A2	15/12/2020	Completed 1/12/2020 <b>Annex_MR1_A2_11</b>
MILESTONE	ACTION	EXPECTED	PROGRESS
First field visit for transfer of best practices	A2	30/08/2020	Completed 5/09/2020 <b>Annex_MR1_A2_04</b>
First WPIU created in each country	A2	30/05/2020	Completed 15/6/2020 <b>Annex_MR1_A2_09</b>
First training course for WPIU in each country	A2	30/10/2020	Completed 28/5/2021 <b>Annex_MR1_A2_10</b>

Expected Results	Achieved Results and Status
Multidisciplinary Working Groups	Completed
Study design on livestock depredations in the areas occupied by transboundary packs of the APAM and PNM	Completed <b>Annex_MR1_A2_03</b>
Three field visits	Completed <b>Annex_MR1_A2_04</b> <b>Annex_MR1_A2_05</b> <b>Annex_MR1_A2_06</b>
WPIU training courses and workshops	Completed <b>Annex_MR1_A2_10</b>

### **6.1.3. Action A3 - Training of new anti-poisoning dog units and coordination of international and national environmental judicial policy - definition of the overall strategy**

Beneficiary responsible for implementation: CUFA

Beneficiaries involved: APAM, APAC, METO, RELO, RAVA, RELI (RELI: partner added to the action on the way), SFS, VUW

**The action is concluded, milestones and deliverables have been realized and expected results achieved.** This action is preparatory for Action C2 and directly addresses Threat 2. The development of this action was affected by the effects of the Covid-19 pandemic: some activities have been reached in delay and one of the scheduled in-person meetings have been realized online. The fundamental goal of counteracting poaching and anti-poisoning activities for wolf conservation has been successfully achieved through the definition of the overall strategy and coordination at national and international level, creation of new anti-poisoning dog units, transfer of best practices and adequate preparation of police officers.

**1) Coordination related to environmental judicial policy has been implemented at international level by establishing a connection and collaboration with police officers from the alpine countries (CUFA, Austria and Slovenia Police Corps) and EUROPOL.** The participation of the BalkanDetox LIFE kick-off meeting, and the connection established with LIFE+ SATEC has contributed to implement an international networking and cooperation useful for set up a strategy at international scale regarding environmental crimes investigations through the international network EnviCrimeNet thanks to the partnership of Arma dei Carabinieri (Ministry of Defence).

**At national level coordination** between environmental police forces has been implemented with 2 meetings:

- First meeting organized by CUFA on the 12<sup>th</sup> of February 2020 in Cuneo with CUFA regional managers of Liguria, Piemonte, Lombardia and Veneto to discuss the criminal phenomenon and to share the central provisions regarding the fight against poaching
- Second meeting organized by CUFA on the 13<sup>th</sup> of February 2020 in Valdieri (CN) with all Institutions responsible of the fight against poaching (regional forest corps of the autonomous regions, provincial police, and parks guards) to coordinate activities at Italian alpine scale ([Annex\\_MR1\\_A3\\_1](#)).

**2) Operational strategy for the creation of a central structure to support and coordinate environmental police forces in the fight against poaching and wolf poisoning was defined in the “Operating Strategy” realized by CUFA ([Deliverable, Annex\\_MR1\\_A3\\_2](#)).** This document provides a common methodology of intervention to make the judicial police action efficient according to the European Guidelines delivered in LIFE SATEC and defined at the central level of CUFA.

**3) 7 new Anti-poisoning dog units (APDUs) have been successfully created and trained by all partners involved in this activity by 12/2021 (APAM, CUFA, RELO, VUW) (6 in Italy and 1 in Austria).** CUFA has formed 3 new APDUs allocated in alpine regions (1 in Liguria, 1 in Lombardia and 1 in Veneto) and their training will be reinforced in C2. APAM has formed 2 new APDUs, 1 allocated in Piemonte (with a new dog handler selected) and 1 in Liguria. Regional distribution of the 2 new units under APAM training competence has been modified with respect to what reported in the proposal, in which 2 APDUs by APAM were foreseen to be created in Piemonte. RELI showed interest in developing this activity in Liguria with an officer of Regional Vigilance as dog-handler, for that reason the second APDU formed by APAM is allocated in Liguria under RELI responsibility. RELO has formed 1 APDU in Lombardia and a specific agreement with Brescia Province has been signed for implementing the APDU activity and a police officer as a dedicated dog-handler has been involved. The Milestone was achieved with 2 first operative APDUs (RELO and RELI APDUs) formed in 11/2021 ([Milestone, Annex\\_MR1\\_A3\\_3](#)). VUW has formed the first APDU in Austria, which training will be continued and reinforced in C2. All 7 new APDUs are represented in the figure in the next page.

**The new APDUs will collaborate with the 4 APDUs from the previous LIFE WOLFALPS (2 CUFA, APAC, METO), who are still maintaining their activity as described in [Annex\\_MR1\\_8\\_1](#).** The first

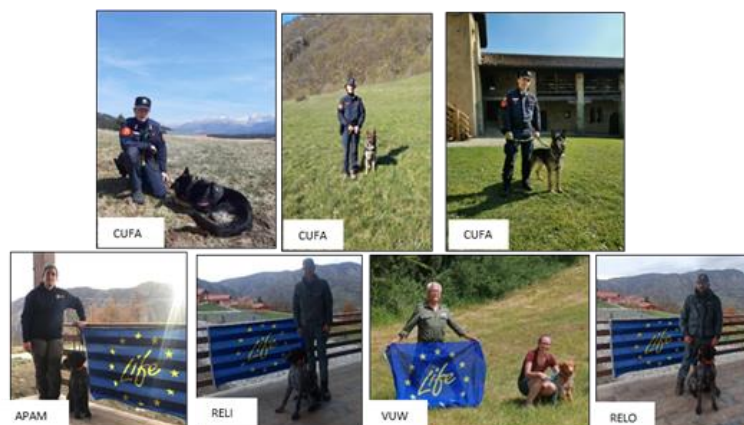
APAM APDU, which was created in the LIFE WOLFALPS, retired in 12/2020 due to the dog's health and age. 150 interventions have been realised by all 5 APDUs (2 CUFA, APAC, APAM, METO) from 1<sup>st</sup> September 2019 to 31<sup>st</sup> December 2020 (61 systematic/preventive interventions and 89 immediate interventions done after the discovery of a dead wolf/other poisoned reported animals).

METO APDU reinforced its training as a new APDU of this project, considering that it was not trained in the previous LIFE WOLFALPS because the dog unit was created in the last year of the previous Projects with METO own expenses as reported in [Annex\\_MR1\\_8\\_1](#).

4) **All workshops and training courses planned in Italy and Slovenia to transfer best practices in anti-poaching** have been realized. A dedicated workshop was carried out in Tarvisio (UD) on the 23-24<sup>th</sup> September 2021 and organized by CUFA to transfer best practices to Austrian and Slovenian Police Corps in antipoaching activities and to improve a real and continuous commitment against poisoning at international level ([Milestone, Annex\\_MR1\\_A3\\_4](#)).

A connection with the LIFE Lynx project team and Slovenian Police has been established through two meetings organized by SFS in Slovenia ([Annex\\_MR1\\_A3\\_5](#)). The first meeting was organized in Ljubljana (Slovenia) on the 8<sup>th</sup> of October 2020 and the second meeting was held on a web platform on the 3<sup>rd</sup> of December 2021.

The first training course for anti-poaching teams in support of the APDUs investigations has been organized by APAM in Chiusa Pesio (CN) on the 12<sup>th</sup> of October 2021 in collaboration with CUFA. The Course provided theoretical and practical information to be carried out by police agents in support of the interventions of APDUs ([Annex\\_MR1\\_A3\\_6](#)).



		2019		2020				2021				2022				2023				2024			
		3 T	4 T	1 T	2 T	3 T	4 T	1 T	2 T	3 T	4 T	1 T	2 T	3 T	4 T	1 T	2 T	3 T	4 T	1 T	2 T	3 T	4 T
<b>Action A3</b>	Proposed																						
	Actual																						

DELIVERABLE	ACTION	EXPECTED	PROGRESS
Operating strategy for the central structure of connection of environmental policy	A3	15/12/2020	Completed 21/05/2021 <a href="#">Annex_MR1_A3_2</a>



<b>MILESTONE</b>	<b>ACTION</b>	<b>EXPECTED</b>	<b>PROGRESS</b>
First operative new anti-poisoning dog team	A3	15/12/2020	Completed 15/01/2022 <b>Annex_MR1_A3_3</b>
Transfer of best practices	A3	15/12/2020	Completed 24/09/2021 <b>Annex_MR1_A3_4</b>

<b>Expected Results</b>	<b>Achieved Results and Status</b>
International coordination of police officers	Completed
Italian alpine regional coordination of police officers by CUFA: meeting in Valdieri on 13/02 to coordinate activities	Completed <b>Annex_MR1_A3_1</b>
Creation and training of 3 new "Anti poisoning dog units" (APDUs) by CUFA: one in Liguria, one in Lombardia and one in Veneto	Completed
Creation and training of 1 new "APDU" in Lombardia, with Province's personnel and coordinated by RELO	Completed
Creation and training of 2 new "APDUs" in Piemonte** and in Liguria* by APAM	Completed
Creation and training of 1 new "APDU" in Austria by VUW	Completed
Training, maintenance, and regular Anti poisoning Activity of APDU by METO	Completed
Maintenance and regular Anti Poisoning Activity of 4 APDUs from the previous LIFE WOLFALPS (1 APAM, 1 APAC, 2 CUFA)	Completed
Transfer of best practices: workshop by CUFA for Austria (VUW) and Slovenia (SFS) in Tarvisio	Completed <b>Annex_MR1_A3_4</b>
2 meetings with LIFE LYNX project team in Slovenia by SFS	Completed <b>Annex_MR1_A3_5</b>
1 training course for anti-poaching in Italy by APAM: for evidence collection in support of dog units in Valdieri	Completed <b>Annex_MR1_A3_6</b>

#### 6.1.4 Action A4 - Active involvement of hunting organizations in wolf population management and development of strategy for a predator-prey-hunters relationship evaluation

Beneficiary responsible for implementation: **ERSAF**

Beneficiaries involved: **ONCFS, APAM, UL, SFS, VUW, APAC, APAP, METO, RAVA, RELO, PNM, RELI, PNDB, UNITO**

**The action is concluded, milestones and deliverables have been realized and expected results achieved.**

Hunters often perceive wolves as a competitor for shared prey species, and this might be the cause for a widespread conflict among wolves and hunters. We have increased their involvement in the development of the knowledge on wolves, as well as to consider their suggestions and discussion in any management strategy. We achieved the work on predator-prey dynamics using a participatory approach, to address Threat N. 4.

##### 1) Development of the strategy and design for the implementation of the study on the interactions among predator-prey-hunters.

A dedicated workshop by the Scientific Committee, involving international experts, has been organised online due to Covid restrictions on 20/10/2021 ([Annex\\_MR1\\_A4\\_1](#)) to discuss the sampling design of the International Predator-prey-hunters study. Other meetings were conducted to define the document: 'Coordinated scientific design and technical protocols to implement the predator-prey-hunter relationship evaluation' ([Deliverable, Annex\\_MR1\\_A4\\_2](#)), which have considered also the relationship of livestock presence in the overall evaluation and all the outcomes that have arrived from hunters. We defined the 4 core areas where the C3 action has been implementing ([Deliverable, Annex\\_MR1\\_A4\\_2](#)) updated in the [Deliverable, Annex\\_MR2\\_A4\\_1](#):

- 1 in Slovenia where wolf packs and prey are present (SFS and UL);
- 1 in Italy, one where wolf packs and prey are presents (APAM and UNITO)
- 1 in Stelvio national park (ERSAF) where wolf packs are NOT present, and prey are present
- 1 in France where wolf packs and prey are present (OFB). The core area defined in the [Deliverable, Annex\\_MR1\\_A4\\_2](#) has been largely discussed in France, as described in detail in chapter 6.2, and changed at the end in 2022, detecting in the Bauge Massif the definitive study area in France. OFB conducted several meetings with hunters to agree on the selection of the study area (see map below), and on the overall project implementation ([Annex\\_MR1\\_A4\\_3](#))

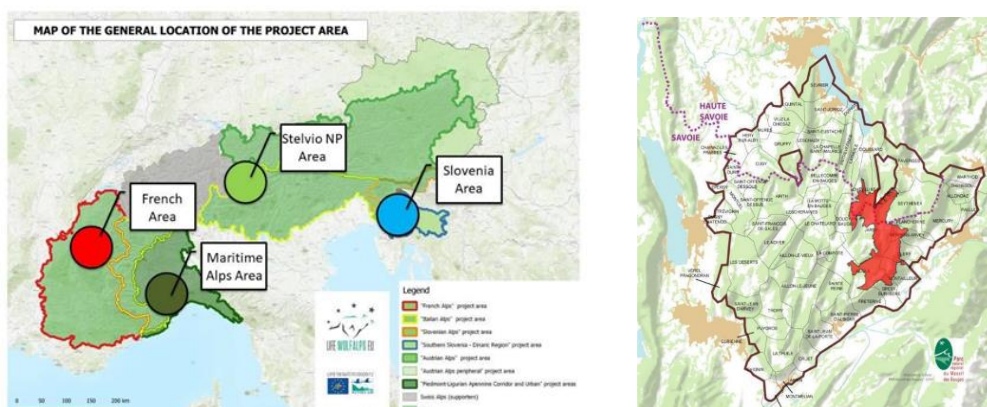


Fig. 1 - Map of the general study area (left) and updated area of implementation in France - Bauge Massif (right)



## 2) Active involvement of hunting organization and hunters in the development of the action C3

a) In the areas where the evaluation has been conducted directly, there has been a huge effort in involving hunters in the project activities. In particular, we conducted 3 workshops/training to plan field activity and the coordination of the technical strategies for wolf and prey captures ([Annex\\_MR1\\_A4\\_4](#) to [Annex\\_MR1\\_A4\\_6](#)). Hence, local workshops for the training of personnel and hunters for ungulate captures (roe deer/red deer) have been conducted in each area. One workshop/training session in Italy in Maritime Alps in Chiuse di Pesio was organized by APAM ([Milestone, Annex\\_MR1\\_A4\\_4](#)) involving local hunters and park rangers for coordination in roe deer captures. In this area also a stewardship agreement has been signed with the hunter districts (Action E2.1). 1 workshop/training session in Italy in Stelvio National Park has been organized by ERSAF [Annex\\_MR1\\_A4\\_5](#). Four training sessions (so 3 more than expected) were carried out to establish a roe deer capture team in Slovenia by SFS with an intensive on-hand training for roe deer captures was carried out, so a team of five operators has been well trained to safely capture and radio-collar roe deer ([Annex\\_MR1\\_A4\\_6](#)). The training consisted of thorough protocol for the whole procedure, exact role assignment to each operator, on-hand practical training, and identification of potential weak points in field conditions and their solutions. As discussed in chapter 6.2., in France several meetings have been conducted with hunters for general agreement on the activity ([Annex\\_MR1\\_A4\\_3](#)); the planned workshop/training session for the active involvement of hunting organization and hunters in France was performed by OFB in action C3 with local hunters in the Bauges massif, the new French detected area for the implementation of C3 Action in France ([Annex\\_MR2\\_C3\\_X](#)).

b) The **awareness campaign** dedicated to the involvement of hunters and the dissemination of the findings beyond the evaluation areas is now fully operational and evolving in strong connection with the development of Action C3, as described in Action E1. News articles, posts on social media and the material needed for the campaign are being produced in Action E1.2 in coordination with Action E2.

To be able to accurately replicate the involvement of hunters over all the Alps, beyond the 4 direct evaluation areas, we conducted dedicated meetings with hunters distributed in the regions to understand needs and spread knowledge and results.

We set up a first group of local meetings.

In particular in Regione Piemonte we organized 3 meetings with at least 30 local hunters each:

- 1 in Alessandria province by APAP ([Annex\\_MR1\\_A4\\_7](#))
- 1 in Torino province by METO, ([Annex\\_MR1\\_A4\\_8](#))
- 1 in VCO province by APOS ([Annex\\_MR1\\_A4\\_9](#))

In Regione Valle Aosta RAVA organized 1 meeting with local hunters ([Annex\\_MR1\\_A4\\_10](#)).

In Regione Lombardia RELO and ERSAF organized 1 meeting with local hunters ([Annex\\_MR1\\_A4\\_11](#)).

Therefore, **in Italy a total of 5 local preparatory meetings with local hunters** were organized in the framework of Action A4 and C3.

**As to the other Countries involved the project**, although at least 3 meetings were foreseen (1 in Slovenia, 1 in France and 1 in Austria), **we performed 8 meetings with hunters**, of which: 3 in Slovenia ([Annex\\_MR1\\_A4\\_12&13](#)), 5 in France ([Annex\\_MR1\\_A4\\_14](#)) and 1 in Austria ([Annex\\_MR1\\_A4\\_15](#)).

**Therefore, we achieved a total of 14 local preparatory meetings with local hunters in the project (6 meetings as outcome replicates).** The first meeting of these was performed in Slovenia by SFS on 03/12/2020 ([Milestone, Annex\\_MR1\\_A4\\_16](#)).

This action will be continued over the years in action C3, in connection with E3.

		2019		2020				2021				2022				2023				2024			
		3 T	4T	1 T	2T	3T	4T	1T	2T	3T	4T	1T	2T	3T	4T	1T	2T	3T	4T	1 T	2 T	3 T	4 T
Act ion A4	Pr op os ed																						
	Ac tua l																						

<b>DELIVERABLE</b>	<b>ACTION</b>	<b>EXPECTED</b>	<b>PROGRESS</b>
Report: Coordinated scientific design and technical protocols to implement the predator-prey-hunter relationship evaluation	A4	15/12/2020	Completed 01/05/2021 <b>Annex_MR1_A4_2</b> updated in <b>Annex_MR2_A4_1</b>
<b>MILESTONE</b>	<b>ACTION</b>	<b>EXPECTED</b>	<b>PROGRESS</b>
First local training of hunters and operators	A4	15/12/2020	Completed 16/09/2021 <b>Annex_MR1_A4_4</b>
First meeting with hunters	A4	15/12/2020	Completed 03/12/2020 <b>Annex_MR1_A4_16</b>

<b>Expected Results</b>	<b>Achieved Results and Status</b>
Dedicated 2-days workshop by the Scientific Committee organized in Valdieri, Italy, by APAM	Completed 20/10/2021 <b>Annex_MR1_A4_1</b>
Development of the strategy and design for the implementation of the predator-prey-hunter relationship evaluations (skype meetings, international working group, e-work)	Completed 2020/2021 <b>Annex_MR1_A4_4_ER</b>
Definition of core areas: 1 evaluation core area in France where wolf packs and prey are present, defined by OFB	Completed 05/2021 <b>Annex_MR1_A4_3</b>
where the C3 action will be implemented: 1 APAM, 1 defined by SFS and UL, 1 area in Italy where wolf packs are NOT present and prey are present, defined by ERSAF	Completed 10/2021 <b>Annex_MR1_A4_2</b>
1 workshop/training session in Italy in Maritime Alps in Chiusa Pesio organized by APAM	Completed 09/2021 <b>Annex_MR1_A4_4</b>
1 workshop/training session in Slovenia organized by UL and SFS four half-a-day training sessions	Completed 12/2021 <b>Annex_MR1_A4_6</b>
1 workshop/training session in Italy in Stelvio National Park organized by ERSAF with other groups	Completed 30/06 - 1/07/2021 <b>Annex_MR1_A4_5</b>
1 meeting with at least 30 local hunters in Alessandria province by APAP	Completed 09/11/2021 <b>Annex_MR1_A4_7</b>
1 meeting with at least 30 local hunters in Torino province by METO	Completed 13/05/2021 <b>Annex_MR1_A4_8</b>
1 meeting with at least 30 local hunters in VCO province by APOS	Completed 01/10/2021 <b>Annex_MR1_A4_9</b>
In regione Valle Aosta RAVA organized at least 1 meeting with local hunters	Completed 21/12/2021 <b>Annex_MR1_A4_10</b>
In regione Lombardia RELO and ERSAF organized at least 1 meeting with local hunters	Completed 24/11/2021 <b>Annex_MR1_A4_11</b>
In Austria AREC organized at least 1 meeting with local hunters	Completed 13/11/2021 <b>Annex_MR1_A4_15</b>
In France OFB organized at least 1 meeting with local hunters (+ 9 meetings with local stakeholder)	Completed 10/05/2021 <b>Annex_MR1_A4_14</b>
In Slovenia SFS organized at least 2 meeting with local hunters	Completed 12/03/2020 <b>Annex_MR1_A4_12&amp;13</b>

## **6.1.5 Action A5 - Optimization of an integrated surveillance of the wolf status at the international alpine population level**

Beneficiary responsible for implementation: APAM, (UNITO: partner added to the action with the Amendment Request n. 1 to the Grant Agreement), UL

### **ACTION A5.1 Organization of the best cost-effective strategy to optimize the integrated surveillance of the wolf status at the international alpine population level**

The action A5 starting from T4 of 2019 is concluded with **all milestones and 2 deliverables realized and the main expected results achieved.**

The development of this action was affected initially by the effects of the Covid-19 pandemic: some activities have been reached in delay and several of the scheduled in-person workshops have been realised online (2020 and 2021); after that regular implementation of this action has been conducted yearly.

**The main goal of this action has been successfully achieved and coordinated surveillance at international population has been implemented by establishing a strong coordination among alpine countries within the "International Scientific Committee" and at a national level the standardization of techniques has been defined.** This action is preparatory for Action C4, necessary also for implementation Action C1 and related to Action E (E1 to E6). Hence this action directly addresses Threat 1 and helps to address Threat 2-3-4.

#### **Action A5.1**

Beneficiary responsible for implementation: APAM, UNITO

Beneficiaries involved: APAC, APAP, APOS, METO, RAVA, RELO, RELI, PNDB, SFS, UL, VUW, OFB, PNM

1) As already deeply described in the MR1 and MR 2 documents , after the 1<sup>st</sup> workshop, held on web platform on the 27<sup>th</sup> of May 2020 ([Annex\\_MR1\\_A5.1\\_1](#)), by the "International Scientific Committee" for wolf monitoring (identified in Action A1, [Annex\\_MR1\\_A5.1\\_3](#)), the 2<sup>nd</sup> workshop was organized on web platform on the 18<sup>th</sup> of January 2022 ([Annex\\_MR1\\_A5.1\\_2](#)), to finalize the strategy reconsidering in-depth cost-benefit analysis, optimization of the methods, standard definitions and criteria in order to combine datasets over the alpine countries. **Then, the overall international strategy (in connection with A7) was defined in the document "Surveillance strategy to optimize the integrated surveillance of the Wolf Alpine Population Status" (Deliverable, [Annex\\_MR1\\_A5.1\\_3](#)).** More details on thi document were reported in MR1.

Further three "International Scientific Committee" workshops were organized to regularly adapt methodologies and enhance international coordination among the seven neighboring Alpine countries. Two of these workshops were scheduled within the Project's scope, while the third, organized by KORA (a Foundation responsible for wolf monitoring in Swiss), was an additional replication that highlights the sustained effectiveness of strong inter-country coordination even beyond the Project's framework.

The 3<sup>th</sup> workshop was held on the 7<sup>th</sup> December 2022 in Barcelonnette (FR) ([Annex\\_MR2\\_A5.1\\_1](#)), the 4<sup>th</sup> workshop held on the 20<sup>th</sup> September 2023 in Turin (IT) ([Annex\\_MR2\\_A5.1\\_2](#)), the 5<sup>th</sup> workshop held from 10<sup>th</sup> to 11<sup>th</sup> September 2023 in Chur (Swiss) ([Annex\\_FR\\_A5.1\\_01](#)). These workshops were the basis for the realization of the annual reports at the international scale on the alpine wolf population (in connection with C4) and fundamental to reinforce coordination among the alpine 7 countries for maintaining a transboundary wolf population monitoring also in the future beyond the Project.

2) At national level each country has adapted its own strategy to the international strategy and a strong coordination between organizing partners at national level has been held. Annual workshops/field training courses - foreseen at the beginning of each surveillance year - have been conducted locally to prepare operators involved in the wolf surveillance to work with a homogenous approach over the Alps according to national and international protocols. These workshops were needed also for planning seasonal surveillance in each area and for coordinating the sampling activities to be carried out by operators. Thus, the International Network have been implemented:

a) at the beginning of the first wolf surveillance season 2020/2021

- b) at the beginning of the second wolf surveillance season 2021/2022
- c) at the beginning of the second wolf surveillance season 2022/2023
- d) at the beginning of the second wolf surveillance season 2023/2024

A key result of this Action is the involvement of a significant number of operators trained in the Project area from 2020 to 2024 (5574 participants in all training events; 1218 participants on average per year) within a shared international strategy. Across the region 135 workshops and 12 field courses were conducted (71 in Italy, 53 in France, 4 in Austria and 7 in Slovenia), exceeding the expected results, in fact 35 workshops and 4 field courses were further replications of the results expected from the Project. The activities carried out each year in the 4 countries are detailed below.

**Despite the effects and restrictions of the Covid-19 pandemic for the first wolf surveillance season 2020/2021 a total of 25 workshops (with at least 960 participants involved) and 8 field courses (with 701 operators formed) has been organized** in the framework of the area of the Project. All workshops and field courses have been detailed and reported in the MR1 Document.

**In Italy 14 workshops** have been organized with **738 participants** involved: 9 workshops were expected by the Project ([Milestone, Annex\\_MR1\\_A5.1\\_4, Annex\\_MR1\\_A5.1\\_5](#)) and 5 were additional replications needed for including locally more operators. Moreover 8 field courses have been organized and 701 operators formed for wolf signs collection; 4 courses were expected by the Project ([Milestone, Annex\\_MR1\\_A5.1\\_6, Annex\\_MR1\\_A5.1\\_7](#)) and 4 were additional replications for training new operators. In Italy all trained events for wolf surveillance were conducted in synergy with ISPRA and based on the deliverable and the previous LIFE WolfAlps strategy. The LIFE WolfAlps EU monitoring in 2020/2021 has been implemented and recognized in the framework of the first Italian National Wolf Monitoring organized by ISPRA (under specific mandate of the previous “Ministry of the Environment and Protection of the Territory and the Sea” - MATTM) realized in the alpine and peninsular regions of Italy. To facilitate wolf signs collection in the field and its archiving in standard dataset a dedicated APP (**GAIA Observer**) was produced for the Italian First Wolf Monitoring and the Project has contributed to its realization ([Annex\\_MR1\\_A5.1\\_8](#)). Then a specific APP user manual for operators has been produced in Action E1 (see [Annex\\_MR1\\_E1\\_16](#)). The use of Gaia Observer was extended beyond the National monitoring to all Alpine regions until the end of the Project to facilitate data collecting.

**In France** a total of **10 workshops** were conducted in the French Alpine area with **at least 200 operators** involved ([Annex\\_MR1\\_A5.1\\_9](#)). **In Austria 1 workshop** was organized by VUW with **22 participants** involved ([Annex\\_MR1\\_A5.1\\_10](#)). **In Slovenia** the workshop was cancelled due to Covid-19 restrictions. Wolf Surveillance Network in Slovenia is composed of many already trained operators: an online workshop was not necessary because new operators were not involved in the 2020/2021 surveillance year due to Covid-19 restrictions.

**For the second wolf surveillance season 2021/2022 a total of 28 workshops were organized over the countries involved (957 operators participated).** All workshops have been reported in the MR1 Document.

**In Italy 18 workshops** have been organized with **689 participants** involved. 9 workshops were expected by the Project ([Annex\\_MR1\\_A5.1\\_11](#)) and 9 were additional replications needed for including locally more operators. **In France** a total of **7 workshops** were conducted in the French Alpine area with about **172 operators** involved; ([Annex\\_MR1\\_A5.1\\_12](#)). 4 workshops expected were cancelled again due to Covid-19 restrictions and not conducted online because wolf surveillance network in the French Alps has been in place for years by OFB and it is made up of many already-trained members. **In Austria 1 workshop** was organized by VUW with **22 participants** involved ([Annex\\_MR1\\_A5.1\\_13](#)). **In Slovenia 2 workshops** have been held with **74 participants** ([Annex\\_MR1\\_A5.1\\_14](#)).

**For the third wolf surveillance season 2022/2023 a total of 30 workshops were organized over all countries involved (at least 881 operators participated).** All workshops have been well reported in the MR2 Document.

**In Italy 15 workshops** have been organized with **541 participants** involved: 9 workshops were expected by the Project ([Annex\\_MR2\\_A5.1\\_3](#)) and 6 were additional replications needed for including locally more operators. **In France** a total of **11 workshops** were conducted in the French Alpine area with **318 operators** involved ([Annex\\_MR2\\_A5.1\\_4](#)): 10 organized by OFB and 1 by PNM. **In Austria 1 workshop** was

organized by VUW with **22 participants** involved ([Annex\\_MR2\\_A5.1\\_5](#)). **In Slovenia 3 workshops** were carried out in the scope of National monitoring financed by the Slovenian Ministry of Environment within the standard protocol of the Project.

**For the fourth wolf surveillance season 2023/2024 a total of 40 workshops were organized over all countries involved (at least 1278 operators participated).** **In Italy 12 workshops** have been organized with 630 participants involved: 9 workshops were expected by the Project and 3 were additional replications needed for including locally more operators. **New 4 field courses** were organized to train new operators in Piemonte (**96 participants**) ([Annex\\_FR\\_A5.1\\_02](#)). **In France 25 workshops** were conducted in the French Alpine area with at least **568 operators** involved ([Annex\\_FR\\_A5.1\\_03](#)): 24 organized by OFB (10 expected and 14 additional replications) and 1 by PNM. **In Austria 1 workshop** was organized by VUW with **18 participants** involved ([Annex\\_MR2\\_A5.1\\_04](#)). **In Slovenia 2 workshops** (1 expected and 1 additional replication) were carried out with **62 participants** ([Annex\\_MR2\\_A5.1\\_05](#)).

## **ACTION A5.2 Development of cutting edge genetic tools for fast, reliable and cost effective surveillance of wolf conservation status**

Beneficiary responsible for implementation: UL

Foreseen/actual start date: November 2019

Foreseen end date: December 2023

The new genetic method has been developed. The steps indicated have been followed:

1) A “genetic wolf alpine group” (GWAG) has been created and coordinated by UL, in strict connection with the Scientific Committee (Action A1), which involved the genetic labs that in the past and today worked on wolf monitoring over the Alps. The GWAG was officialized during the workshop held on line on the 5th of November 2020 ([Milestone, Annex\\_MR1\\_A5.2\\_1](#)) (and communicated in page 4 of the [Annex\\_MR1\\_A5.2\\_2](#)).

2) A 2 days genetic workshop has been organised online on the 5th of November 2020 connected with A5.1, to find agreement among genetic labs of the GWAG. A document has been agreed during the workshop and written which defined the “**International genetic protocols for cost effective monitoring for the wolf alpine population**”, which also discussed the development of the HTS for large scale coordination and comparison of data ([Deliverable, Annex\\_MR1\\_A5.2\\_1, Annex\\_MR1\\_A5.2\\_2](#)).

3) **Started implementing the work for developing the new technique at UL:**

Laboratory protocols for the new genotyping method based on high-throughput sequencing (HTS) of microsatellites (STR) were developed and optimized. Bioinformatic pipelines for STR development and genotyping from HTS data were optimized to increase genotyping accuracy and computational efficiency. A workshop was organized at the University of Ljubljana on 4-5 April 2023 **for training the laboratories** ([Annex\\_FR\\_A5.2\\_02](#)) of the Genetic Wolf Alpine Group (GWAG) in the use of the new method ([Annex\\_MR2\\_A5.2\\_1](#)). The laboratory protocols and the bioinformatic analysis were presented in detail to allow adoption of the method by the other labs. Genetic laboratories have been invited for additional training sessions until the end of the project ([Annex\\_FR\\_A5.2\\_03](#)).

The new HTS genotyping method was successfully implemented for wolf monitoring in Slovenia in the 2022/2023 season. Genotyping success rate for individual identification was over 80%, which is the highest ever achieved for wolf monitoring in Slovenia. The method was also implemented in other wolf monitoring projects at UL with considerably higher success rates than in previous analyses performed using the “old” method. The method was also successfully tested in genotyping of eDNA from wolf snow tracks, with 70% success rate (De Barba et al., 2024, published manuscript included in [Deliverable, Annex\\_FR\\_A5.2\\_01](#)).

All animal reference samples from previous sampling seasons were genotyped with the new method to ensure data continuity. This makes all genotyping data generated at UL backwards compatible and can be used for pedigree reconstructions. In addition, wolf reference samples from other wolf populations in



Europe were genotyped with this method (Alpine, Central European, Carpathian, Balkan), as well as reference samples from dogs, jackals and foxes to enable reliable identification of other canid species in field-collected samples, detection of migrants from other populations and reliable detection of wolf-dog hybrids.

The HTS genotyping method and bioinformatic pipeline for analysis of the data is described in details in a deliverable document titled Cutting edge genetic tools for fast, reliable and cost-effective surveillance of

wolf conservation status, detection of hybridization with domestic dogs ([Annex FR A5.2 1](#)).

A subset of wolf samples already genotyped with the standard method by other laboratories of the Genetic Wolf Alpine Group was reanalysed with the new approach. This allowed the comparison of method performance to further inform its implementation by these labs, while also starting the re-genotyping of legacy wolf samples in other parts of the Alps to ensure data continuity. The Slovenian and Swiss laboratories are now routinely using the new method. The method has already started to be implemented in Austria, Italy, and Germany.

		2019		2020				2021				2022				2023				2024			
		3 T	4 T	1 T	2 T	3 T	4 T	1 T	2 T	3 T	4 T	1 T	2 T	3 T	4 T	1 T	2 T	3 T	4 T	1 T	2 T	3 T	4 T
<b>Action A5</b>	Proposed																						
	Actual																						

DELIVERABLE	ACTION	EXPECTED	PROGRESS
Document “Surveillance strategy to optimize the integrated surveillance of the Wolf Alpine Population Status”	A5.1	30/04/2020	Completed 30/04/2022 <b>Annex_MR1_A5.1_3</b>
Scientific document “Cutting edge genetic tools for fast, reliable and cost-effective surveillance of wolf conservation status, detection of hybridization with domestic dogs”	A5.2	15/12/2023	<b>Annex_FR_A5.2_01</b>
Organisation of a 2 days genetic workshops connected with 2 days workshop of the Scientific Committee	A5.2	15/12/2020	Completed 5/11/2020 <b>Annex_MR1_A5.2_1</b>
MILESTONE	ACTION	EXPECTED	PROGRESS
First workshop organized at the beginning of the first surveillance yearly session	A5.1	30/10/2020	Completed 20/09/2020 <b>Annex_MR1_A5.1_4</b>
First field training course organized at the beginning of the first surveillance yearly session	A5.1	30/10/2020	Completed 14/09/2020 <b>Annex_MR1_A5.1_6</b>
Create a “genetic wolf alpine scientific group” coordinated by UL genetic lab	A5.2	15/12/2020	Completed 05/11/2020 <b>Annex_MR1_A5.2_1</b>

<b>Expected Results</b>	<b>Achieved Results and Status</b>
At international level: A 2 days workshop of the Scientific Committee will be held in Valdieri (Italy) in 2020, 2021, 2022	Completed <b>Annex_MR1_A5.1_1;</b> <b>Annex_MR1_A5.1_2;</b> <b>Annex_MR2_A5.1_1;</b> <b>Annex_MR2_A5.1_2;</b> <b>Annex_FR_A5.1_1</b> <b>(1 additional replication)</b>
ITALY - Annual workshop: 2020, 2021, 2022, 2023	Completed <b>Annex_MR1_A5.1_5;</b> <b>Annex_MR1_A5.1_11;</b> <b>Annex_MR2_A5.1_3;</b> <b>Annex_FR_A5.1_02</b>
FRANCE - Annual workshop: 2020, 2021, 2022, 2023	Completed <b>Annex_MR1_A5.1_9;</b> <b>Annex_MR1_A5.1_12;</b> <b>Annex_MR2_A5.1_4;</b> <b>Annex_MR2_A5.1_4;</b> <b>Annex_FR_A5.1_03</b>
AUSTRIA - Annual workshop: 2020, 2021, 2022, 2023	Completed <b>Annex_MR1_A5.1_10;</b> <b>Annex_MR1_A5.1_13;</b> <b>Annex_MR2_A5.1_5;</b> <b>Annex_MR2_A5.1_5;</b> <b>Annex_FR_A5.1_04</b>
SLOVENIA - Annual workshop: 2020,2021, 2022, 2023	Completed <b>Annex_MR1_A5.1_14;</b> <b>Annex_MR2_A5.1_05;</b> <b>Annex_FR_A5.1_05</b>
ITALY - 4 Field training course for new operators: in 2020 1 organized by 1 APAM and 1 by METO in Piemonte, 1 in Liguria by RELI, 1 in Lombardia by RELO	Completed <b>Annex_MR1_A5.1_7;</b> <b>Annex_FR_A5.1_02</b> <b>(additional replications)</b>
A specific APP for cell phones connected to a PC program will facilitate field data collection	Completed <b>Annex_MR1_A5.1_8</b>
International genetic protocols for cost effective monitoring for the wolf alpine population	Completed <b>Annex_MR1_A5.2_2</b>
Development of the new genetic technique at UL: design, test and finalize a lab protocol that will enable rapid genetic profiling of wolf samples using HTS of DNA markers	Completed

## 6.1.6 Action A6 - Hybridization in the alpine population and connection corridor: define protocols, management actions, and teams of interventions

Beneficiary responsible for implementation: APAP

Beneficiaries involved: RELI, APAM

The action started in January 2020 and it was successfully achieved in May 2021, providing the foundation to the implementation of the C5 Action, with the aim to address wolf-dog hybridization threat (Threat 7), by preventing the wolf genetic identity loss and mitigating the wide spreading cases of hybridization present in the Northern Apennine towards the Alpine population, mainly through the Apennine corridor (located between Liguria and south Piemonte, Italy).

- 1) In coordination with the Scientific Committee and other national/international experts, a **“Common international genetic protocol for detection of hybridization for the wolf Alpine population”** was performed ([Deliverable, Annex\\_MR1\\_A6\\_1](#)). The document defines the strategy for harmonizing the genetic protocols to be applied in the Alps among different laboratories (e.g. sharing a list of common markers to detect hybridization). This outcome was achieved thanks to the organization of **a workshop in APAM, in the framework of the A5.2 Action** ([Deliverable, Annex\\_MR1\\_A5.2\\_1](#)). Among the items of discussion, it was aimed to set up the collaboration for genetic protocols standardization, to exchange of samples and data, and to detect wolf-dog hybridization in the wolf alpine population, via the ISPRA coordination, who provided a standardized sequencing and genotyping analysis protocol.
- 2) Another important step of the action was to define a common management and intervention protocol for hybrid removal. Therefore the **“Long term shared management of hybrids at international alpine scale”** were developed ([Deliverable, Annex\\_MR1\\_A6\\_02](#)). This document, was achieved in close connection with the Technical Group (Action A1) and thanks a great effort of the project to increase the national governance, in fact, Alpine Italian Regions, ISPRA and other local authorities (those mainly implicated in the wolf-dog hybridization management, at the alpine scale, so far) were involved to participate in developing and drafting **a document containing an authorization and a procedural process to guide the interventions of reproductive neutralization of hybrid individuals** from the natural context, within the Alpine wolf population, in line with the national and European laws (Berna Convention) considering a legal vacuum in the Italian regulatory framework. The was drafted on the path of the guidelines for hybrid management provided and adopted in the Apennine context by the LIFE10 NAT/IT/000265, however it represents above all the outcome achieved thanks to the work done in frame of the **workshop organized by APAP** ([Annex\\_MR1\\_A6\\_03](#)), **with the technical wolf alpine groups, in coordination with the Scientific Committee and other national experts and authorities, both to define a common management and intervention for hybrid removal** and free ranging dogs issues in the Alpine Regions. The Guidelines drafted in this project to manage the hybridization in the alpine context were applied both in project area and outside it, in Friuli Venezia Giulia Region as best practice replicate. These guidelines are the outcome of lots of efforts done to push the national and regional authorities to overcome this legal vacuum concerning wolf-dog hybridisation in Italy.
- 3) **The local teams of intervention for hybrid capture in nature were set-up in May 2021** ([Milestone, Annex\\_MR1\\_A6\\_04](#)), both in APAP and in RELI, and their optimal training activity was moved and performed in C5 in April 2022 ([Annex\\_MR1\\_C5\\_3](#)), in collaboration with the Wolf Apennine Center (WAC), which is giving external assistance in the field interventions for hybrid removal both to APAP and to RELI (details in C5 action). This organization allows a better optimization of the activities in view of the implementation of the concrete action, without causing any delay in the finalization of A6 action. **A special trained team of at least 4 park rangers of the APAM** (Piacenza Enzo, Rivelli Augusto, Dotto Mario, Roggero Valter who, after his retirement, was replaced by Fissore Mauro), was defined and prepared on 12/2020, **to relocate hybrids and injured wolves or hybrids to the captive facility** ([Milestone](#)).
- 4) The **awareness campaign implementation** for hybridization and for building support towards management and conservation actions related to the topic is under implementation, in connection with the development of the concrete action in coordination with Action E2. Considering the critical aspects of this issue, dedicated information campaigns with infographics and simple explanations on hybridisation have been produced, as discussed in Action E1. News articles and posts on social media have also been published,



as well as a dedicated FAQ section on the project website. The dissemination material needed for the campaign is in preparation as described in Action E1.

As to the **round tables with environmentalists and stakeholders** to agree/share the hybrid management approaches we state that the Covid-19 pandemic didn't allow us to organize and achieve these meetings in the framework of the A6 action. Therefore this specific task was moved and performed into C5 ([Annex\\_MR1\\_C5\\_4](#)) without effects on the A6 finalization (details in C5 action). The round tables have been more effective in C5, because they have been organized just before the capturing activity, to involve stakeholders in the decision process.

		2019		2020				2021				2022				2023				2024			
		3 T	4 T	1 T	2 T	3 T	4 T	1 T	2 T	3 T	4 T	1 T	2 T	3 T	4 T	1 T	2 T	3 T	4 T	1 T	2 T	3 T	4 T
<b>Action A6</b>	Proposed																						
	Actual																						

DELIVERABLE	ACTION	EXPECTED	PROGRESS
Common international genetic protocol for detection of hybridization	A6	15/12/2020	Completed 30/05/2021 <b>Annex_MR1_A6_01</b>
Long term shared management strategy on management of hybrids at international alpine scale	A6	15/12/2020	Completed 01/06/2021 <b>Annex_MR1_A6_02</b>
MILESTONE	ACTION	EXPECTED	PROGRESS
A special trained team ready to capture hybrids and injured wolves in the Apennine Corridor (training moved to C5 for a tasks optimization)	A6	15/12/2020	Completed 31/05/2021 <b>Annex_MR1_A6_04</b>
A trained team at APAM ready to relocate hybrids and injured wolves to captive facility	A6	15/12/2020	Completed 31/12/2020

Expected Results	Achieved Results and Status
Organize a 1-day workshop in Piemonte, Italy, by APAP, in Bosio (AL), with the technical wolf alpine groups, in coordination with the Scientific Committee and other national experts and authorities, to define a common management and intervention protocol for hybrid removal and free ranging dogs issues. Additional coordination meetings for the implementation of the action are reported.	Completed 03/2021 <b>Annex_MR1_A6_03</b>
Awareness Campaign: addressed in the Communication Strategy (E1), details in C5	Completed 06/2021 <b>Annex_MR1_A6_05</b>
Awareness Campaign	Completed 06/2021 <b>Annex_MR1_A6_06</b>

### 6.1.7 Action A7 - Dealing with urban wolves: develop specific protocols for prevention, surveillance, and eventually managing bold wolves

Beneficiary responsible for implementation: APOS

Beneficiaries involved: APAM, APAP, METO, RAVA and UNITO

The action is concluded, all milestones and deliverables have been realized and expected results achieved. The expanding wolf population is reaching lowland areas with high human density and wolves are close to urban areas, especially in the Western alpine regions of Italy and in France. The goal of dealing with urban wolves has been successfully achieved through the realization of specific protocols, needed especially in the Western regions of Italy, and through national/international coordination regarding conservation and management issues on the topic. This action directly addresses threats n.5 and 8. These protocols will be adopted by WPIU in Action C1, for surveillance in Action C4, in Action C5 for eventually needed in emergency activities in case of potentially dangerous situations and for dissemination actions in Action E1, E2 and E3, particularly in urban areas.

1) The **monitoring strategies for adapting surveillance in urban area** was discussed at international level during the first workshop held on web platform on the 27th of May 2020 in Action A5.1 ([Annex\\_MR1\\_A5.1\\_1](#)), by the “International Scientific Committee”, then what deliberated has been integrated in the overall strategy defined in the document “Surveillance strategy to optimize the integrated surveillance of the Wolf Alpine Population Status”, deliverable of Action A5.1 ([Annex\\_MR1\\_A5.1\\_3](#)). The strategy is adopted in Action C4.

2) A **specific protocol for adapting prevention strategies in urban areas** has been developed within the deliverable of Action A2 regarding WPIU’s activities ([Annex\\_MR1\\_A2\\_08](#)), in detail some indications are added for prevention in urban areas considering different contexts compared to the mountain area.

2 Workshops were conducted by the technical group to develop this specific protocol and to organize local WPIU activities also in urban areas (in connection with Actions A2-C1) ([Milestone, Annex\\_MR1\\_A7\\_1](#)).

3) A **specific protocol for the identification and definition of bold wolves** has been produced, according to the terminology, definition and management indications provided by the LCIE Protocol realized in 2019. The document “Management of bold wolves at alpine scale”, ([Deliverable, Annex\\_MR1\\_A7\\_2](#)) provides an international contextualisation on the topic and references of National Policy have been reported. An Italian section “Strategy of documentation and management of bold wolves in the Italian alpine regions” is inserted within the deliverable, the strategy reported has been shared and realized with Western Regional Administrations involved in the Project (RELI, RELO, RAVA and Piemonte Regional Administration). This protocol will be adopted in Action C4 and C5 in case of unusual wolves behaviour.

The workshop expected by the proposal to be carried out at local scale in Alessandria by APAP was held as a meeting with a roundtable realized on the 29th of April 2022 ([Annex\\_MR1\\_A7\\_3](#)) in the framework of the Thematic Annual Conference on Bold Wolves organized by RAVA in Action E6. There the strategy defined as the “Strategy of documentation and management of bold wolves in the Italian alpine regions” has been presented and discussed in depth with local stakeholders involved and with a larger audience in presence and online (including officers of the Valle Aosta Regional forest corps, provincial police, park rangers, technicians, veterinarians of ASL).

4) The **awareness campaign** dedicated to bold wolves and the dissemination of the findings beyond the evaluation areas, has been developed and is now fully operational, as described in Action E1. News articles and posts on social media concerning the progress and achievements of the concrete action were published. The prevention of habituation is based on making people adopt correct behaviour, such as the removal of potential attractants, keep the right distance from wolves and report suspected cases of wolves’ bold behaviour. For this reason, a specific poster and online infographic is under development. Considering the expansion of wolf range into hilly and flat areas, where the human presence is higher, this dissemination campaign will continue beyond the end of A7, using the materials produced under this action as an information base.

		2019		2020				2021				2022				2023				2024			
		3T	4T	1T	2T	3T	4T	1T	2T	3T	4T	1T	2T	3T	4T	1T	2T	3T	4T	1T	2T	3T	4T
<b>Action A7</b>	Proposed																						
	Actual																						

DELIVERABLE	ACTION	EXPECTED	PROGRESS
A specific protocol for adapting surveillance and monitoring strategies in urban areas	A7	15/12/2020	Completed 30/04/2022 <b>Annex_MR1_A5.1_3</b>
A specific protocol for adapting prevention strategies in urban areas	A7	15/12/2020	Completed 1/10/2020 <b>Annex_MR1_A2_08</b>
A specific protocol for the management of bold wolves	A7	15/12/2020	Completed 31/03/2022 <b>Annex_MR1_A7_2</b>
MILESTONE	ACTION	EXPECTED	PROGRESS
First workshop for developing protocols organized	A7	30/09/2020	Completed 08/06/2020 <b>Annex_MR1_A7_1</b>

Expected Results	Achieved Results and Status
Workshop with the technical and scientific committee (in connection with the workshop of Action A5.1)	Completed <b>Annex_MR1_A5.1_1</b>
Workshop with the technical group and WPIU	Completed <b>Annex_MR1_A7_1</b>
Workshop for eventually needed emergency activities in case of potentially dangerous situations (hosted in Aosta organized by RAVA; in the proposal planned in the province of Alessandria, in Casale, organized by APAP)	Completed <b>Annex_MR1_A7_3</b>

## 6.1.8 Action A8 - Summary of Best Practices for wolf population management and Slovenia Management plan

Beneficiary responsible for implementation: SFS

Key activity in this action was to elaborate and adopt revised strategic documents (Strategy and Action plan) for the wolf in Slovenia. The actual start of the action was delayed since SFS personnel started working on the project itself in 2020, January, and the organisation of the SFS project team and its work took some necessary time. The delay didn't have a negative impact on the milestone of the action that was completed on time.

To start with the action, SFS and UL presented the timeline, the relevant institutions that should participate in the process and the possible pitfalls at the meeting with the officials from the Ministry of Environment and Spatial Planning ("the Ministry"), thus forming a core group of experts, in September 2020.

**Following the approval from the Ministry, SFS summoned all relevant authorities identified at the meeting in fall 2020 and formed a group of experts, ranging from biologists, foresters, agricultural experts to the officials from the Ministry and the Ministry of Agriculture, Forestry and Food.** At the first meeting of this preparatory group, held online on 16<sup>th</sup> February 2021, the group confirmed the timeline, prepared a list of stakeholders and the content for the first thematic platform. The outcome of the second meeting of the group, held online on 19<sup>th</sup> April 2021, were the draft objectives and activities for the strategy confirmed as the basis for the work of the group. Since the feedback on the first thematic platform was very positive, the group decided to organize another in spring 2021.

**With the inclusive approach of all relevant stakeholders in mind, SFS organised two thematic platforms with a broad circle of stakeholders present.**

1. On 12<sup>th</sup> March 2021, we gathered main challenges and possible solutions for the renewal of the strategic documents for wolf in Slovenia from a broad circle of 75 stakeholders. The event was organized in two parts: first, presentations of some of the important issues for the matter (the status of wolf population in Slovenia, legislative and judicial framework for the wolf management, wolf and the prevention of damages in Slovenia); secondly, active work of participants in smaller groups with facilitators focusing on three titles: management of wolves, wolves and agriculture, active engagement of stakeholders. Based on the report, SFS included the challenges and solutions into the draft index of the strategy.

2. The second thematic platform took place on 31<sup>st</sup> May 2021, online, with 51 participants. Based on the challenges and solutions from the first thematic platform, the stakeholders discussed long-term and short-term goals of the renewed strategic documents for wolf in Slovenia and identified the activities for implementing these goals. Three presentations in the beginning served as consolidation of expert opinions (biology and ecology of the wolf, the limits for the management of the wolf outlined by the legislation and current challenges of preventive measures). After the debate, active work of participants in smaller groups focused on three chapters of the draft text: relation human-wolf, protection of wolf population and conservation of wolf habitat. The debate contributed to the definition of new activities, to the new perspectives on the objectives of the strategy. The challenges and possible solutions from the first thematic platform were changed into activities planned to achieve long-term and short-term goals of the strategy in three chapters mentioned above.

After the second thematic platform, SFS prepared 3 reports (one per each chapter) and based on these, wrote the draft text of the strategy for the management of the wolf in Slovenia. At the end of August 2021, the draft was sent to the preparatory group for review and comments. The third meeting of the preparatory group was held on 30<sup>th</sup> September 2021, already discussing the open comments and proposals on the draft strategy. In March 2022, a new version of the strategy was sent to the group members for ratification in their respective organizations; the comments and corrections were included in the text and presented at the fourth meeting of the group, held on 7<sup>th</sup> September 2022. The last open questions were discussed at the meeting and based on this version of the strategy; the group started with the preparation of the action plan. Concrete measures were prepared for each objective of the strategy and prioritized, thus representing a solid plan for future management of the species. On 10<sup>th</sup> March 2023, on the fifth meeting of the group, the draft action plan was presented and discussed, giving way for another round of comments and corrections. At

the end of May 2023, all measures were financially evaluated and both documents sent to the group for further evaluation. Also, the SFS regional personnel forwarded their comments that were taken into account.

The last versions were sent to the Ministry of Natural Resources and Spatial Planning (new name after the reorganization in 2023) in autumn 2023.

Till the end of the project, the Slovenian partners involved in the A8 action (SFS, UL) established the expert group for the preparation of the strategic documents, organized the meetings of the group, thematic platforms, and prepared the draft documents, with the representatives of the Ministry actively involved in the expert group. For the text of the strategy, altogether four sets of comments and proposals were received from the members of the preparatory group and other representatives of the competent authorities in Slovenia. **After submitting the documents to the Ministry in October 2023, the project team members involved in the expert group expressed their willingness to help with the final procedure and reminded the Ministry of the importance of its adoption.** SFS repeatedly informed the Ministry about the importance of the timely adoption of the strategic documents; **official notes were sent** by the director in March 2024, April 2024 and again in September 2024. **The Ministry presented the documents to the Interest group for large carnivores and gathered their comments, and to the Expert group for large carnivores and already implemented corrections to the texts based on their remarks.** According to the letter signed by the Slovenian Ministry of Natural Resources and Spatial Planning on 20th December 2024 ([Annex\\_FR\\_A8\\_05](#)), the Slovenian strategic documents are expected to be adopted before the end of April 2025. On 10th of February 2025 the Slovenian strategic documents ([Deliverable, Annex\\_FR\\_A8\\_04](#)) for wolf conservation and management were released for public debate [\[link\]](#). Now, the continuation of the adoption process is in the Ministry's scope of competence and cannot be guided by the project team involved in the expert group anymore.

**The summary of best practices for wolf population management ([Deliverable, Annex\\_FR\\_A8\\_01](#))** is a selected collection of methods and initiatives that have been applied in the LIFE WOLFALPS EU project as a response to diverse threats identified at the beginning of the project, the most important being Conservation and Management Fragmentation. The solutions to specific threats and challenges were applied and tested during the project. They are linked to the challenges and their purpose or instructions for use can therefore be easily recognized by anyone facing the same challenges. The purpose of the document is to provide a toolbox of best practices as an example for the other transboundary large carnivore populations in Europe where management at the population level is rarely done in practice. But with generalization, they can also be used as a guide for authorities that share the responsibility for conserving wildlife in general.

**In Italy, the foreseen annual round tables with all the Regions and Autonomous Provinces were performed to share management implications and best practices developed in the project.** The meetings were achieved in February 2020, in November 2021 ([Annex\\_MR1\\_A8\\_01](#)), in January 2023 also involving ISPRA ([Annex\\_MR2\\_A8\\_01](#)), in September 2023 ([Annex\\_MR2\\_A8\\_02](#)), in May 2024, in connection with C6 Action ([Annex\\_FR\\_A8\\_02](#)) and in July 2024, in connection with C4 Action ([Annex\\_FR\\_A8\\_03](#)). This last Round Table was particularly important, and attended by ISPRA too, in order to set up the continuation of a coordinated approach among Italian Regions in the wolf monitoring, after the end of the Project. Within this meeting a Technical Forum of the Italian Alpine Regions.

		2019		2020				2021				2022				2023				2024			
		3 T	4 T	1 T	2 T	3 T	4 T	1 T	2 T	3 T	4 T	1 T	2 T	3 T	4 T	1 T	2 T	3 T	4 T	1 T	2 T	3 T	4 T
Action A8	Proposed																						
	Actual																						

<b>DELIVERABLE</b>	<b>ACTION</b>	<b>EXPECTED</b>	<b>PROGRESS</b>
Summary of best practices	A8	30/03/2024	Completed <b>Annex_FR_A8_01</b>
Strategy and action plan for the wolf in Slovenia	A8	15/12/2023	Texts released for public debate by the Ministry on 10/02/2025 [ <a href="#">link</a> ] <b>Annex_FR_A8_04_D EL</b>
<b>MILESTONE</b>	<b>ACTION</b>	<b>EXPECTED</b>	<b>PROGRESS</b>
First Slovenian wolf group meeting	A8	30/09/2020	Completed 22/09/2020

<b>Expected Results</b>	<b>Achieved Results and Status</b>
Legal adoption of the ACTION PLAN for wolves in Slovenia	Expected by the end of April 2025 Ministry letter <b>Annex_FR_A8_05</b>
2020: In Italy a ROUND TABLE with all the Alpine Regions and Autonomous Provinces, has been organized via web conference to discuss about management/bold wolves on the 4th of february by the Province of Trento, other Regions participated	Completed 02/2020
2021: In Italy a ROUND TABLE with all the Alpine Regions and Autonomous Provinces, and when available Ispra/Ministry of Environment, is organized once a year to share results with management implications and best practices developed in Actions A, C, D, and E	Completed 11/2021 <b>Annex_MR1_A8_01</b>
2022: In Italy a ROUND TABLE with all the Alpine Regions and Autonomous Provinces, and when available Ispra/Ministry of Environment, is organized once a year to share results with management implications and best practices developed in Actions A, C, D, and E	Completed 01/2023 <b>Annex_MR2_A8_01</b>
2023: In Italy a ROUND TABLE with all the Alpine Regions and Autonomous Provinces, and when available Ispra/Ministry of Environment, is organized once a year to share results with management implications and best practices developed in Actions A, C, D, and E	Completed 09/2023 <b>Annex_MR2_A8_02</b>
2024: In Italy a ROUND TABLE with all the Alpine Regions and Autonomous Provinces, and when available Ispra/Ministry of Environment, is organized once a year to share results with management implications and best practices developed in Actions A, C, D, and E	Completed 07/2024 <b>Annex_FR_A8_02 Annex_FR_A8_03</b>

## Conservation actions (Actions C)

### 6.1.9 Action C1 - Wolf prevention emergency teams: damage inspections, preventive methods, moderation, wolf control conflict mitigation in hot spot areas

Beneficiary responsible for implementation: SFS

Beneficiaries involved: **all Partners**

**Action C.1 - The action was concluded in September 2024, following the end of the preparatory Actions A.2 and A.7, and using the indications resulting from the Deliverables of Action A.2.; milestones, deliverables and expected results have been finalized and produced as planned.**

The negative attitude of local people towards wolf presence is often due to the lack of measures to prevent attacks on livestock as well as insufficient assistance to breeders from local authorities (threats 3 and 4). The primary goal of the action is to assist farmers in using prevention systems and to inform them about funds available for prevention and damage compensation so as to decrease the impact of wolf presence. The creation and training of WPIU, implemented in Action A.2 by each Partner, is the tool we used to effectively assist breeders in case of depredations, to prevent damages and to evaluate the efficacy of the prevention strategies adopted, proposing *ad hoc* solutions.

**Action C.1 started before planned (January 2020)** due to the increase of wolf packs in some areas, with the consequent need for farmers to protect their livestock. **Aside these areas, the Action effectively started in January 2021 taking into account the WPIU operating strategies and the optimal preventive strategies defined in Action A.2**

([Annex\\_MR1\\_A2\\_02](#) and [Annex\\_MR1\\_A2\\_08](#)), by means of coordinated actions between Partners. **Twenty-one meetings not budgeted** in the Project have been conducted among Partners for better coordination and implementation of the Action. In case of need, the WPIUs operate together with the anti-poisoning dog teams (**in connection with Action C.2**). The WPIU activity is complementary to RDP measures in order to favour a process of synergy avoiding overlapping. In September 2023 the WPIU national coordinators of each country produced the document “**The efficacy of prevention systems in the Alps in the framework of the LIFE projects**” ([Annex\\_MR2\\_C1\\_01](#)) in response to the Commission’s invitation to local communities, scientists and all interested parties to submit up-to-date data on wolf population and their impacts. This document is discussed in detail in Chapter 6.3.4 POLICY IMPACT.



**1. WPIU interventions were implemented by each Partner.** A “WPIU intervention” is defined as each day of field intervention during which an operator of the team hands out protection measures (fences, LGD, watering points, or other devices) or provides advices on their correct use to a breeder/shepherd and informs them about the existence of funds dedicated to prevention and damage compensation. In Italy the preventive tools are given temporarily to breeders in case of impelling need, while they apply for RDP funds for prevention. In Austria, the tasks also include preventive advice on guided pasture management.

**The Milestone “First intervention in each country” has been achieved ([Milestone, Annex\\_MR1\\_C1\\_01](#)).** WPIU interventions were in total **1.869** compared to the **812** expected by the project:

- Italy:
  - Regione Piemonte (APAC-APAM-APAP-APOS-METO): **total 546**
  - Regione Lombardia (RELO-ERSAF): **total 238**
  - Regione Liguria (REL): **total 175**
  - Regione Valle d’Aosta (RAVA): **total 103**
  - PNDB: **total 50**
- France (OFB-PNM): **total 395**
- Austria (AREC): **total 27**
- Slovenia (SFS): **total 335**



**Farmers assisted by WPIU interventions were in total 1077:**

- Italy (APAC-APAM-APAP-APOS-METO-RELO-ERSAF-RELI-RAVA-PNDB): **744**
- France (OFB-ONM): **182**
- Austria (AREC): **20**
- Slovenia (SFS): **131**

**2. A database** collecting WPIU interventions has been created and it was regularly implemented by each Partner in the Action Plan. The data collected has been analysed and used to produce the Deliverable “**Final guidelines for the long term implementation of wolf prevention units (WPIU) at each national level and cost-effective evaluation**” ([Deliverable\\_Annex\\_FR\\_C1-D2\\_01](#)).

**3. The WPIU aimed basically to help breeders improve their use of livestock guarding dogs (LGD) and fences.** In addition to advice given to breeders and shepherds during WPIU field interventions, **two specific educational workshops for farmers** have been organised in Regione Piemonte: **1. a workshop on LGD** (aimed at raising, managing and best educating LGD) was organised by APAC (**n. participants=32; Milestone, Annex\_MR2\_C1\_02**); **2. a workshop on preventive measures** with the participation of the 3 Project stewards (aimed on the use of LGD and electric fences and on the tools of choice for the containment of livestock) has been organized by APAP (**n. participants=13; Annex\_MR2\_C1\_03**). **Thirty further meetings addressed to breeders, not initially foreseen in the Project**, were organised in all 4 project countries on preventive strategies and LGD (in connection with Action E3.2) and **16 more events involving breeders** have been organized in 2023 and 2024 by RELO and ERSAF, within Action E.3.1 and E3.2 and in connection with a networking initiative with the SheepShield Project promoted by the project supporter Eliante Onlus and financed by Operation 1.2.01 of the RDP of the Lombardy Region. In RELO specific project funds have been assigned to the supporter Province of Sondrio, directly involved in WPIU activities, to carry out dedicated and “door to door” field assistance to farmers in Val Chiavenna in 2023, extended to further areas of Valtellina in 2024 where conflict was on the rise. **To increase awareness about the presence of LGD** in alpine touristic areas, RAVA organised **7 workshops** dedicated to the general public, RELO **1 workshop** (in connection with C.7 action) and APAM produced an **information panel** to inform tourists on the behaviour to adopt in presence of LGD (in connection with E1.2). The use of the panel was also requested by Parco Regionale Adamello (IT) that personalised the logos (see Action E1), and used the modified panels within the framework of the project “Spazi condivisi” implemented by Comunità Montana di Valle Camonica/Parco dell’Adamello in collaboration with ERSAF. Also, in **PNM** conflicts between hikers and LGD are becoming more frequent. To face this difficulty, the WPIU core team was helped by 5 pastoral mediators (funded by the Wolf National Action Plan) to inform tourists and hikers on the trails about the presence of LGD in the pasture, and how to behave in front of them to avoid any conflicts. They also make animations for the general public on pastoralism and the LGD in the tourist accommodation, refuges and houses of the Park. Additionally in France, the OFB has provided expertise on wolf behaviour and livestock protection during meetings and workshops organised by stakeholders and funders: OFB WPIU staff produced and presented a literature review on how to protect cattle from depredation at the request of DREAL AuRA (co-financier of the project) to the French national working group on the issue, delivered a training session on wolf behaviour to horse breeders and their representatives at the request of the “Baronnies Provençales” regional park, and actively participated in a project aiming to test an alert device on horses interacting with wolves (i.e., tracking of the heart rate of horses as a means for breeders to remotely identify when an interaction with the predator might have taken place; the approach is similar to the one tested by AREC on sheep, see below).

**In Slovenia the LGD breeders network created in the LIFE DINALP BEAR continues its work and by the end of the project, 11 pups have been distributed to new owners. Moreover, 3 dogs were**



**raised by two of the most experienced breeders in Slovenia until the age of one and a half year (until-adult phase) and have been distributed to new owners and integrated in the herd. All dogs have been supervised**

by the expert-breeders who distributed the dogs. Besides working with LGDs, SFS also worked actively with several farmers, who received **14 electric nettings** (10 for sheep, 4 for cattle and horses in vulnerable stages - young animals and suckler cows). Two of the mentioned cattle breeders were involved in the project with a different fencing system with removable wires. All breeders have been visited at least once per year to check the use of implemented measures.

**In Austria 5 WPIU teams were created.** At the beginning they carried out their missions exclusively in emergency cases (wolf predation). The missions support the affected farmers by securing dead animals for genetic testing, treating injured animals and recapturing the rest of the herd. Eleven emergency operations were carried out. Twenty farmers with 1.383 sheep were included. At the same time, the counselling service for preventive measures was expanded. In addition to the aspects of the use of fences and livestock guarding dogs, recommendations for the practical implementation of guided pasture management were also provided. A total of 5 large mountain pasture areas were supported with 15 missions. One-hundred and thirty-six farmers with 1.823 sheep and 450 cattle were included. **In total, WPIU carried out 27 missions in Austria. In summary 156 farms with 3.206 sheep and 450 cattle were supported.** AREC also organised 14 information events with local chambers of agriculture, politicians and the administration to impart basic social knowledge.



**In Italy, 265 operators were appropriately trained to be part of the WPIU. They assisted directly in the field 744 farmers and 371 of them received preventive tools: 355 electrified fences, 12 fladries, 26 acoustic devices, 30 watering points and a LGD.** It was easier to distribute ready-to-use prevention material than LGD that are effective in adulthood (>1,5 years). The assisted farmers were located both on the Alps and in the plain/hill areas where the wolf has recently expanded its distribution. On site observations on the use of preventive methods have been carried out by WPIU to evaluate their correct implementation. It was evident that, although most sheep-goat farmers used electrified fences, these were rarely properly placed and so it was important to suggest them useful implementations. APAC experimented the use of a big electric fence (tot. length 800 m, height 120 cm) to contain a flock of 1000 sheep/goats during foggy days. This flock has hardly been attacked by wolves since 1997. Number of dead animals dropped from 80 heads in 2021 to 39 heads both in 2022 and 2023. All events occurred because of sick animals forgotten out of the night fence. The shepherd declared his satisfaction because of less stress during bad weather days. APAM conducted a specific study, not foreseen by the project, to explore LGD association with sheep and cattle in order to evaluate which factors most influence their spatial proximity and which factors influence the nocturnal movement of LGD ([Annex\\_MR2\\_C1\\_04](#)).



**The OFB WPIU and the PNM WPIU**, in addition to the general aims described above, conducted **night observations of LGD** (equipped with GPS collars) and wolf behaviour through thermal cameras to better understand under what conditions preventive systems fail to stop wolves from attacking livestock. Twenty-six direct observations of wolf behaviour in proximity of livestock were made by the OFB WPIU between June 2021 and September 2024. Most showed wolves travelling through the area and showing little to no interest in the flock under observation, but one failed and one successful attack (observation made by the Mercantour WPIU) were also documented. Making such observations allows the OFB and

PNM WPIU to back up the advice they give to breeders with hard evidence of how wolves might circumvent their preventive system, which increases the probability that breeders will act on the advice provided. The OFB and PNM WPIU also provides to breeders information about the results of the movements of their LGDs equipped with GPS collars along with sheep. These activities were not foreseen by the project.



**4. The field trials with GPS collars conducted by AREC have been completed and have resulted in a clearly defined process.** As previously documented, the direct attempt to determine alarm signals based on acceleration sensors was soon abandoned because the individual behaviour of the animals (e.g., running, jumping, fighting) led to a high number of false positive diagnoses. Instead, the focus shifted to determining spatial patterns of herds by using a higher number of GPS collars within the herd. The developed algorithm examines: a) the current speed of each sheep, b) the variations in speed between the measured animals within a herd, and c) the variations between neighbouring herds in a region. The key factor is evaluating the current speed based on a herd-specific "normal" speed. A statistical model (GLM) has defined the following factors for determining this speed from over 3 million GPS data points: 1) Hour of the day, 2) Week of the year, 3) Topological and vegetation index, 4) GPS collar measurement interval, 5) Animal species, 6) Herd management by shepherds. **For the standard configuration of GPS collars in Austria (3-hour measurement interval, alpine terrain with calcareous grasslands and dwarf shrubs, sheep), an average normal speed of 0.27 km/h  $\pm$  0.37 km/h was calculated.** The coefficient of determination is 66.28%. Currently, and in the post-life period, further work is being done on implementing the results into an online tool. **There is high hope for the establishment of remote monitoring of herds based on dynamic thresholds, as GPS collars have become very inexpensive and are widely accepted by farmers.** Additionally, funding bodies are supportive of this technology within the framework of the digital farming initiative. It will be the task of developers and researchers to ensure that false alarms are kept to a minimum and that the communication of events is tailored to the farmers' ability to respond.

**5. A training course for volunteers was organised by RELO for 60 volunteers ([Annex\\_MR2\\_C1\\_05](#)).**

In RELO, after the training course, a group of “**Help shepherd**” volunteers was created for the pasture season 2022 in Parco Orobic Bergamasche (RELO) who supported 6 shepherds and conducted 41



interventions in checking prevention systems in place ([Annex\\_MR2\\_C1\\_06](#)). The activities continued with a **replication** in 2023 in the Regional Park Mont Avic (Valle d'Aosta Region) through the project “Pasturs” promoted by the project supporter Eliante Onlus: a training course was organised on 13/05/2023 and a **group of 40 “Help shepherd” volunteers** was trained and created to support 4 farmers during the summer season. During this course an online refreshment dedicated to volunteers that took part in Pasturs project in 2021 and 2022 (in RELO) was also organized. Another refreshment course was organized on 25/05/2024. In the whole, **32 formed volunteers supported 10 farmers** in the Orobic Bergamasche, performing 27

WPIU interventions in 2022, 7 in 2023 and 5 in 2024.

**6. The Deliverable “Final long-term guidelines for the implementation of the WPIU at each national level and cost-effect evaluation” has been finalised by September 2024** in order to analyse three years of data collection (one year longer than initially planned) and to obtain more solid indications about WPIU activities. This delay didn't affect any expected results or other activities but improved the concluding evaluations ([Deliverable\\_Annex\\_FR\\_C1-D2\\_01](#)). The goals of the present document are to evaluate the effectiveness of mitigation measures implemented to reduce damages caused by wolves on livestock in the project area in Austria, France, Italy and Slovenia, where wolf prevention intervention units (WPIUs) were established.

**7. The Additional Deliverable “Preventive measures and new RDP measures activated”** was postponed because the RDP 2014-20 programming period has been extended for 2021 and 2022. The Rural Development Program was available in most countries from 2023 onwards and the document **has been finalised on April 2024 ([Deliverable\\_Annex\\_FR\\_C1\\_02](#))**. The report on the new Common agricultural policy (CAP, before it was named RDP), more specifically on the new activated schemes to support farming practices in areas of large carnivores presence was prepared in collaboration with the Large carnivores, wild ungulates and society working group (WISO group) of the Alpine Convention. This provided a broader overview, reaching beyond project boundaries, as it included all alpine countries, not only the countries

involved in the project. Each country commented on their application of the EU funds to prevent conflicts with large carnivores and exposed pros and cons of their schemes. A special chapter was added for the overview of the internal national schemes and how these are complementary in the context of conflict mitigation.

**8. The Additional Deliverable reporting on “Effectiveness of mitigation measures implemented to reduce wolf damages on livestock” has been provided in connection with Action D.2 and has been finalised by September 2024.** The data needed to produce the report has been collected by WPIU and inserted in a specific database. **The deliverable is part of the deliverable “Final long-term guidelines for the implementation of the WPIU at each national level and cost-effect evaluation”,** as a specific chapter ([Deliverable Annex\\_FR\\_C1-D2\\_01](#)). The project had set two important goals: (1) to decrease wolf depredations by 70% where attacks occurred in wolf presence area, and preventive measures were implemented by WPIU; and (2) to obtain that the damage prevention methods would be used by at least 80% of the farmers involved in the preventive measure actions. The evaluation was very clear and the results were very sound in the cases of Italy and Slovenia. In Italy, more than 99% of farmers that were involved in WPIU activities, used damage prevention tools. Moreover, the reduction of attacks caused by wolves decreased by 81%. Similarly, in Slovenia, 92% of livestock breeders who received damage prevention tools from LIFE or other financial sources have regularly used it to protect their herds. The number of damage events decreased by 90,27 % and the number of affected animals (dead or injured) dropped by 95,87 %. Moreover, 84,73% of farmers involved have not experienced damage events after WPIU interventions. In Austria and France we found it difficult to compare the results to other countries, mainly due to the unwillingness of farmers towards the implementation of damage prevention methods. Austrian livestock breeders are not obliged to follow the WPIU guidelines and often opt for keeping the grazing herds free without any fences. The electric fences are implemented only if the wolves are detected in the area. And even in these periods, fences are poorly set up and maintained. In France, 89,5% of breeders collaborating with the French WPIU used prevention systems. Unfortunately, when considering the effectiveness of WPIU activities, it was impossible to perform a correct evaluation as most preventive systems were not modified or changed after WPIU interventions. For these reasons, the French WPIU do not appear to have been successful in reducing the number of attacks or the number of depredated animals in the areas they intervened. The lack of a supportive systematic approach for applying damage prevention seems to represent the main challenge for alpine countries, resulting in low interest in finding solutions to decrease and prevent the impact of wolves on farming practices in the Alps. The report shows that, when applied, damage prevention measures can provide a good solution for long-term coexistence of animal husbandry and wolves in the Alps.

**9. As discussed in Action A.2, the APAM-PNM specific study on depredations by transboundary packs was moved and reported in Action C.1.** Data on the use of preventive systems, livestock husbandry and livestock depredations have been collected with the support of the WPIU in 3 transboundary study areas. A full-time master student from the University of Torino (DBIOS) worked on the study for APAM. The study focused on how prevention systems were applied in 3 transboundary areas of France and Italy, two countries that share the presence of transboundary wolf packs, but with different results in terms of attacks frequency on livestock and number of victims. The number of depredation events did not differ significantly in the 3 study areas, suggesting that both countries face similar levels of predation pressure from wolves. However, variations emerged when examining the temporal trends, the spatial distribution of attacks, the number of victims and the effectiveness of preventative strategies employed in each country ([Annex\\_FR\\_C1\\_03](#)).

**10. A first workshop for Veterinarians** was organised on 28/11/2022 and involved **58 participants** ([Annex\\_MR2\\_C1\\_07](#)). With communication T1.2022.00159522 DG Welfare communicated that the regional veterinarians guarantee only the information related to the managing of depredated carcasses but they are not directly involved in WPIU activities, therefore they don't have an active role in damage inspection. RELO continued to involve and invite them in the thematic platforms, but will also organise the remaining dedicated workshops addressing them also to a broader target (involving all WPIU operators to discuss their activities and improve the effectiveness of the teams). On 18/04/2023 and on 05/03/2023 RELO participated to **2 training courses** with interventions by WPIU experts on wolf depredations and damage prevention. The courses were aimed at veterinarians, wildlife technicians and provincial police (**n.**

**Participants = 80).** In 2024, RELO supported Parco Adamello in defining the program of training meetings aimed at veterinarians and held on 23/04/2024 (**n=42 participants**) and 28/05/2024 (**n=44 participants**).

**11. The awareness campaign for preventive actions and dissemination of WPIU activity is being implemented and fully operational, as described in detail in Action E1.** The communication protocol defined with the International WPIU operating strategy (see [Deliverable, Annex\\_MR1\\_A2\\_08\\_DEL](#)) keeps the information flow from the local WPIU manager to the communications manager. News articles, posts and brochures are being published and an animated video clip together with an infographic poster and an information card dedicated to LGD were produced. Moreover, a video clip dedicated to the activities carried out by the WPIUs in France was released by OFB, as well as the one produced by the SFS and by PNDB, as fully described in Action E1. Meetings with farmers, not originally planned, were organised by ERSAP, APAM, SFS, RAVA as reported in Action E3.2.

		2019		2020				2021				2022				2023				2024			
		3 T	4 T	1 T	2 T	3 T	4 T	1 T	2 T	3 T	4 T	1 T	2 T	3 T	4 T	1 T	2 T	3 T	4 T	1 T	2 T	3 T	4T
<b>Action C1</b>	Proposed																						
	Actual																						

DELIVERABLE	ACTION	EXPECTED	PROGRESS
Final long terms guidelines for the implementation of the WPIU at each national level and cost-effective evaluation	C1	30/05/2023	Completed 27/09/2024 <b>Annex_FR_C1-D2_01</b>
Recommendations and guidelines of sensor-based systems on flocks and feedback for improvement, in the context of operating WPIU in Austria	C1	30/05/2022	Completed 31/01/2022 <b>Annex_MR1_C1_02</b>
Effectiveness of mitigation measures implemented to reduce wolf damages on livestock	C1-D2	31/08/2024	Completed 27/09/2024 <b>Annex_FR_C1-D2_01</b>
Preventive measures and new RDP measures activated	C1	31/12/2022	Completed 10/04/2024 <b>Annex_FR_C1_02</b>
MILESTONE	ACTION	EXPECTED	PROGRESS
First WPIU intervention in each country	C1	30/08/2021	Completed 10/06/2021 <b>Annex_MR1_C1_01</b>
First educational workshop for improving LGD management	C1	30/05/2022	Completed 26/10/2022 <b>Annex_MR2_C1_02</b>

<b>Expected Results</b>	<b>Achieved Results and Status</b>
A comprehensive database for WPIU interventions	Completed
WPIU training courses for volunteers and workshops for vets	Completed
WPIU interventions in each country	Completed
APAM-PNM specific study on depredations by transboundary pack: implementation and results	Completed 20/08/2024 <b>Annex_MR2_C1_02</b> <b>Annex_FR_C1_03</b>
Workshop organized in Slovenia to renew WPIU knowledge to farmers	Completed
Practical field-testing of the reliability of sensor-based systems on flocks by AREC in Austria	Completed
Workshop on improving correct use of preventive methods by APAP	Completed <b>Annex MR2_C1_03</b>
10 LGD pups distributed to sheep breeders and 3 dogs raised to adults in Slovenia	Completed
Development of a group of “Help shepherd” volunteers in Lombardia by RELO	Completed

### **6.1.10 Action C2 - Measures against illegal wolf killing and control of poison baits and coordination of international and national environmental judicial policy**

Beneficiary responsible for implementation: CUFA

Beneficiaries involved: APAM, APAC, METO, RELO, RAVA, RELI (RELI: partner added to the action), SFS, VUW

Action C2 commenced in January 2021, was initially limited to the activities implemented by the 4 'Anti-Poisoning Dog Units' (APDUs) established under the Life WOLFALPS project. Subsequently, in January 2022, all remaining activities were launched following the preparatory Action A3, whose results were delayed due to the Covid-19 pandemic. Action C2 concluded in September 2024, with all planned activities fully implemented, achieving the primary objectives and meeting both milestones (2) and deliverables (2) in accordance with project requirements. **This action directly addresses Threat 2 by counteracting the illegal killing of wolves with special measures against poaching and poisoning, the control of poisoned baits and the coordination of international and national environmental judicial policy.**

The action is in progress through these activities:

1) *Coordination and function of the International and National Environmental Policies, and constant surveillance of poaching on alpine scale with the central structure of connection.* The support and coordination of environmental police operators is being holding by Carabinieri Forestali (CUFA) at two levels:

- **at international level** with police officers from the alpine countries also through the already active EUROPOL bodies, especially connecting officers from Austria, Slovenia, Italy and France.

On the subject of environmental crimes, the international collaboration established by CUFA in 2021 with LIFE+ SATEC continues, also through the new interaction with LIFE BOREALWOLF in 2022. The networking established (in connection with E1) is very important for implementing a regulatory harmonisation of criminal investigation and for facilitating further cross-border criminal investigations. Furthermore, the partnership of Arma dei Carabinieri (Ministry of Defence) within the international network EnviCrimeNet of EUROPOL permits the implementation of the coordination and function of the International and National Environmental Policies. CUFA took part in the workshop on Large Carnivores, organized in Linz on 30<sup>th</sup> and 31<sup>th</sup> May 2023 under “EMPACT EnviCrime priority - Wildlife and pets trafficking” ([Annex\\_MR2\\_C2\\_01](#)). CUFA presented the best practices developed in the LIFE Projects, especially in LIFE Wolfalps EU Project in order to implement antipoaching and antipoisoning activities across Europe.

**A robust partnership with Slovenia has been established within the Project framework** through an initial educational workshop for Slovenian police officers (SFS) ([Milestone, Annex\\_FR\\_C2\\_01](#)), scheduled for December 2021 and postponed due to Covid-19 restrictions, and subsequently followed by a delegation visit from Slovenia to Italy in 2024 ([Deliverables, Annex\\_FR\\_C2\\_02](#)). These 2 visits provided a precious opportunity for exchanging a mutual learning on wildlife management (in particular on protected species) and anti-poaching activities.

The 1<sup>st</sup> workshop, organized by SFS in collaboration with CUFA, took place from November 15<sup>th</sup> to 16<sup>th</sup>, 2023, in Sorica (Slovenia) and involved police officers, hunters, members of the SFS WPIU, SFS project staff, and hunting inspectors. CUFA provided advanced training on procedures and protocols for addressing illegal wolf killings, facilitating the transfer of expertise from Italy's Anti-poisoning Dog Teams. Then a 2<sup>nd</sup> visit took place in Italy from June 18<sup>th</sup> to 20<sup>th</sup>, 2024, where the main activities (APDUs interventions and CITES procedures) carried out by CUFA were presented to representatives of SFS and Inspectorate of the Republic of Slovenia for Agriculture, Forestry, Hunting and Fisheries.

- **at national and alpine regional level** with the regional managers of the Carabinieri together with the other bodies involved in the fight against poaching at local level (Regional forest corps of the autonomous regions, provincial police, park rangers). 2 meetings regarding anti-poaching activities



dedicated to police officers have been carried out 1 in Valle d'Aosta in collaboration with RAVA dedicated to Regional Forest Corp, and 1 in Lombardia ([Annex\\_MR1\\_C2\\_01](#)). 2 workshops were held in Veneto on the 12<sup>th</sup> of April 2022 and on the 11<sup>th</sup> of July 2023 for coordinating police officers activity in case of antipoisoning events. Then a round table with CUFA, Veterinary Public Service, APAM and Police Environmental Wildlife Surveillance Service of Cuneo Province regarding poisoned baits and wildlife surveillance coordination was held in Piemonte on the 13<sup>th</sup> of May 2023 within a Conference "Bocconi avvelenati e saturnismo: una problematica emergente" (in connection with E1.2 and E3.2) ([Annex\\_MR2\\_C2\\_02](#)).

In Austria, VUW organized eight workshops across the country specifically for police officers specializing in environmental issues, including wildlife, with a total of 199 participants ([Annex\\_FR\\_C2\\_03](#)). The goal was to promote actions focused on preventing and addressing poaching offenses involving wolves. Additionally, Austria's first APDU was introduced. Researchers covered various topics - such as the biology and ecology of wolves, legal frameworks, livestock protection measures, encounters with wolves, and potential interactions between police and wolves.

2) *a dedicated database relating to violations of the environmental protection laws* specially related to the species *Canis lupus* (in particular regarding poaching) is being constantly updated by CUFA. **The overall quantification and description of interventions realized from January 2021 to June 2024 were reported in detail in the document "Documented list, description and quantification of interventions of the Anti-Poisoning Dog Units" expected by the Project ([Deliverables, Annex\\_FR\\_C2\\_04](#)). The deliverable reported in the Annexes the results of toxicological analyses on wolves carcasses and on baits found during interventions of the Italian APDUs undertaken by the Istituto Zooprofilattico Zonale (IZS) del Piemonte -Valle d'Aosta Liguria Region and by other IZS for other regions.**

3) *Activities of "anti-poisoning dog units" (APDUs).*

The function of the 4 APDUs from the previous LIFE WOLFALPS (2 CUFA, 1 APAC, 1 METO) has been continuing in the LIFE WOLFALPS EU Project (trained and regular anti-poisoning activity). The new 7 APDUs, trained under Action A3 of the Project, started to be active for interventions in Italy in 2022 and in Austria in 2023. **The 1<sup>st</sup> Milestone foreseen was reached in March 2023: all the new 7 APDUs carried out their first interventions in the field (1 APAM, 1 RELO, 1 RELI, 3 CUFA, 1 VUW) and therefore the anti-poaching activity has been fully operational and regularly in planning since that date. The APDU established by VUW is the first team trained in Austria.**

Starting from this important milestone achieved, the direct fight against poisoning actions is extended to the entire Alpine range: in Italy from the western regions (Piedmont and Liguria) to the central-eastern ones (Lombardy and Veneto) and up to Austria.

**From that point onward, cooperation among all operational APDUs from both WOLFALPS and WOLFALPS EU has been established. This collaboration has been further strengthened and optimized throughout the action's implementation via regular meetings and ongoing communications within the Project framework.**

A first coordination meeting among all Italian partner involved in activities of the new APDUs has been organized to implement the action ([Annex\\_MR1\\_C2\\_02](#)). Moreover, a kick off meeting among APDUs has been carried out in Avigliana (TO) on the 31<sup>st</sup> of March 2022 ([Annex\\_MR1\\_C2\\_03](#)) to implement operative cooperation and coordination among APDUs allocated in Piemonte and in the neighboring regions (Liguria and Lombardia). After that 12 coordination meetings among Italian APDUs were carried out to share training protocols and field experience and also for common training sessions ([Annex\\_MR2\\_C2\\_03, Annex\\_FR\\_C2\\_05](#)).

Considering the full range of interventions by the 11 APDUs, the primary goal has been met and exceeded the estimated 1000 interventions (n=1124), therefore replications were achieved. Infact, the 10 Italian APDUs intervened 1114 times (731 preventive interventions and 383 immediate interventions after a case of documented poisoning case) from 1st January 2022 to 30th September 2024; the first APDU established in Austria done 10 interventions from March 2023 to the end of the Project: 9 preventive and 1 immediate intervention in collaboration with local Police ([Annex\\_FR\\_C2\\_06](#)).

For all 7 new APDUs regular training sessions were frequent from 2022 to 2024 to consolidate dog-handler relationships and improve the search for poisoned baits ([Annex\\_MR2\\_C2\\_03](#), [Annex\\_FR\\_C2\\_05](#), [Annex\\_FR\\_C2\\_05](#)).

**A further replication of Action C2 is the addition of two new APDUs to the LIFE WOLFALPS EU team: one handler from APAM with Argo (a French Pointer) and one handler from APAC with Maya (an Australian Shepherd) ([Annex\\_FR\\_C2\\_05](#)).** Their intensive training began in early 2024, and the new teams will be operational in Piedmont starting in 2025 as part of the After LIFE Plan, implementing the direct fight against poisoning activities.

4) The **awareness campaign** developed for anti-poaching and anti-poison dog units has started and is now in full implementation. News articles, posts, press releases and videos on APDU activities have been published in connection with the development of the action, as fully described in Action E1. Moreover, the manual on wildlife forensics “Principles, techniques, methods and practical recommendations to combat the illegal killing of wild animals” ([Annex\\_FR\\_E1\\_04](#)) was made available in German bu VUW and published on the project’s web page as described in Action E1.

		2019		2020				2021				2022				2023				2024			
		3T	4T	1T	2T	3T	4T	1T	2T	3T	4T	1T	2T	3T	4T	1T	2T	3T	4T	1T	2T	3T	4T
<b>Action C2</b>	Proposed																						
	Actual																						

DELIVERABLE	ACTION	EXPECTED	PROGRESS
Exchange visit to “Anti poisoning dog unit” from Slovenia to Italy	C2	15/12/2023	Completed <a href="#">Annex_FR_C2_02</a>
Documented list and description of interventions and overall quantification	C2	30/05/2024	Completed <a href="#">Annex_FR_C2_04</a>
MILESTONE	ACTION	EXPECTED	PROGRESS
First intervention of each “Anti-poaching dog unit” to look systematically for poison baits	C2	15/12/2021	Completed RELI: 18/02/2022 RELO: 24/02/2022 APAM: 17/03/2022 CUFA: 13/05/2022; 02/08/2022; 17/08/2022 VUW: 23/03/2023
Workshop for selected officers in Slovenia	C2	15/12/2021	Completed <a href="#">Annex_FR_C2_01</a>

<b>Expected Results</b>	<b>Achieved Results and Status</b>
International coordination of police officers with EUROPOL	Completed <b>Annex_MR2_C2_1</b>
Italian alpine regional coordination of police officers by CUFA: meeting in each alpine region to coordinate activities	Completed <b>Annex_MR1_C2_1</b> <b>Annex_MR2_C2_2</b>
Workshops of specialized police officers organized by VUW in Austria	Completed <b>Annex_FR_C2_03</b>
Gather and organize information relating violations and illegal actions (dbase)	Completed <b>Annex_FR_C2_04</b>
Training and regular anti-poisoning activity of the 7 new “anti-poisoning dog units” (consider training/preventive/urgent interventions) (1 APAM, 3 CUFA, 1 RELI, 1 RELO, 1 VUW)	Completed <b>Annex_FR_C2_04</b> <b>Annex_FR_C2_05</b> <b>Annex_FR_C2_06</b>
Maintenance and regular anti-poisoning activity of the 4 “anti-poisoning dog units” (consider training/preventive/urgent interventions) from the WOLFALPS Project (1 APAC, 2 CUFA, 1 METO)	In progress <b>Annex_FR_C2_04</b> <b>Annex_FR_C2_05</b>

### 6.1.11 Action C3 - Building strong partnership: involving hunters in wolf-prey ecosystem functioning understanding

Beneficiary responsible for implementation:  
**OFB**

#### 1) Action C3 started in T3 of 2021 as planned and is concluded in all four study areas.

The LWA EU study on predator-prey-human activities was based on design characterised by 3 study areas with presence of both wolves and ungulate prey (1 in Slovenia, 1 in the Maritime Alps region of Italy, and 1 in France) and one in which wolves were absent (Stelvio national park in Italy) (see Action A4). Partners worked in close association with hunters and with each other to ensure that protocols were compatible. The international working group of C3 used to meet regularly (at least once a month online since 08/2024) in order **to build and maintain a strong collaboration among the different research groups and to produce the final shared analysis on roe deer habitat selection**. To stay up-to-date with our field activities and field protocols and to adjust methodologies, project partners met twice in person in two study areas: Stelvio National Park (ITA; 29<sup>th</sup> June – 2<sup>nd</sup> July 2021) and in Jelovica plateau ([Annex\\_MR2\\_C3\\_02](#)). In spring 2024, the UNITO - phd student performed 3-months research fellowship abroad in the University of Chambéry, improving with this occasion the working synergy with the team of C3 Action, above all with OFB, streamlining the **joint analysis and the publication**. **The manuscript was submitted at the beginning of October 2024** for peer review and is currently under editorial consideration (see [Deliverable, Annex\\_FR\\_C3\\_01](#)). In addition, data coming from the investigations performed in the Maritime Alps study area were analyzed providing **a further publication in the project framework**, submitted to editor, and accepted for review (see [Annex\\_FR\\_C3\\_16](#)).

All partners produced a local report for each study area. The 4 reports are pooled in [Deliverable, Annex\\_FR\\_C3\\_15](#) (single local reports are called [Annex\\_FR\\_C3\\_02](#), [Annex\\_FR\\_C3\\_03](#), [Annex\\_FR\\_C3\\_04](#), [Annex\\_FR\\_C3\\_05](#), within the loaded [Annex\\_FR\\_C3\\_15](#)). Given that different partners are responsible for implementation of the action in each study area, description of the process is provided separately for each study area.

#### - Slovenia (partners responsible: SFS and UL)

Preparations for roe deer captures in the Jelovica area in Julian Alps started in 2020. Although the preparations and field work took place throughout the year, roe deer captures were executed during three consecutive winter seasons (from 2020/21 onwards; Fig. 3). We trained a team of field operators (more than four training sessions in January and February 2021 and two in December 2021, resulting in five people of SFS personnel being fully trained to immobilize and handle roe deer ([Annex\\_MR1\\_A4\\_6](#); [Annex\\_MR1\\_C3\\_01](#)) and cooperated with local hunters for joint field work. **We collared 17 individuals and made 21 immobilizations** (lines Nr= 307 and 309 of the Action Plan). **All captures went smoothly**. On average, we tracked animals for 50.6 weeks (11.6 months). The shortest time we have tracked a collared individual was 6.0 weeks (1.4 months) and the longest was 120.3 weeks (27.7 months). Nine individuals (52.9 %) survived till after the end of the monitoring period and eight (47.1 %) died before the pre-programmed end of deployment (large carnivore predations, other natural causes, unknown reasons).

**Three wolves were captured and collared** in the Jelovica study area. The first, a subadult male named Jelko, was captured on November 6, 2020 (Fig. 2). He dispersed to the bordering area between Italy and Slovenia in the beginning of April 2021. In collaboration with the head of the Kobarid Hunting Club, University of Ljubljana (UL) staff went on a field visit to the area of Kobarški Stol Mountain in November 2021 to search for potential carcasses of prey killed by Jelko. The wolf later attempted several unsuccessful “excursions” to the south and



Fig. 3. Roe deer immobilization for radio-



especially to the west in Italy, an area characterised by several linear obstacles and a densely populated valley. He was then found dead from a traffic collision on February 17, 2022. The second wolf, a male pup named Mojmir, was captured and collared on October 13, 2021. His collar unfortunately stopped emitting after 1 month for unknown reasons. The third wolf, a female pup named Neža, was captured on October 17, 2022, weighing 22 kg. She stayed with the pack till the end of February 2023. She then tried to disperse a couple of times but returned back to her native home range. In March 2023 she finally dispersed south to the pre-Alpine area (Polhograjski Dolomiti). In December, 2023 she unfortunately managed to rip off the cotton “Belt Break Away” and her collar dropped off. All field work protocols and results were described in detail in the deliverable “*Local report*”, ([Annex FR\\_C3\\_02](#)).

**Cooperation with hunters** was constant, reciprocal and trust-building. Interested leaders of local hunting clubs, as well as local hunters, foresters and National Park rangers were taking part in all field activities: setting box-traps and camera traps, maintenance and control of box-traps and camera-traps, live-captures, observations of marked individuals, measuring carcasses and providing long bones for bone-marrow analyses (altogether 132 records collected in one year from Jelovica hunting clubs, including long bones and forms for measured carcasses; mortality due to road kill, hunting cull, large carnivore predations, other natural causes), snowtracking, wolf scat collection and search for predated ungulates. We maintained our cooperation through frequent phone calls and e-mail updates on the progress of fieldwork. Apart from personal one-to-one communication, as reported in MR1, we also organised larger informative meetings, inviting hunting clubs’ leaders and management boards to participate (six meetings in autumn 2021, speaking with more than 34 hunters (lines N. 322 and 339 of the Action Plan). We signed external assistance contracts with six hunting clubs within the study area, which assured help with the field work and communication with all hunters in the area.

Additionally, **two hunters’ workshops were organised** in the study area in 2021 and 2022 (Fig. 4), 41 and 36 participants were present, respectively ([Annex MR2\\_C3\\_01](#)). We discussed the study design, its implementation, cooperation in data collection and the methods used. Then, the results and challenges from the previous two seasons were presented and future work plans were discussed. At the last workshop, questionnaires, translated from English to Slovenian, were offered to hunters, so we could obtain some insights into hunters’ attitudes toward relationships among wolves, ungulates and hunting ([Annex FR\\_C3\\_06](#)).



Fig. 4. Workshop with hunters

We published three popular articles about the results of C3 on roe deer and wolf in a hunting magazine [Lovec](#), which reaches all Slovenian hunters (issues May and October 2022 and September 2024 (see details in Action E2, [Deliverables](#), [Annex MR1\\_E2\\_14](#), [Annex MR2\\_E2\\_06](#), [Annex FR\\_E2\\_07](#), ).

**Due to a trustful cooperation, one hunting club decided to become steward of the project.** We undersigned the stewardship agreement in December 2021; both parties (SFS and hunting club Bohinjska Bistrica) reciprocally increased project and institutional visibility through local and project media channels. **Four popular articles** were published in a local newspaper about roe deer captures and monitoring of radio-collared animals ([Deliverable](#), [Annex FR\\_E2\\_07](#)), as planned.). Additionally, when organising a “School Hunting Day” for Primary School pupils, they presented project C3 activities and results on their field excursion.

Not only we shared experience and knowledge among project partners, but also among other LIFE projects and beyond. In June 2022, an international group of experts (from 8 countries; from England to Iran) on large carnivore conservation was hosted in Slovenia on a networking event to exchange LIFE best practices, discuss field methodology and project results.

We published 24 articles on the project web page about work on action axis A4/C3 (<https://www.lifewolfalps.eu/en/category/predator-prey-relationship/>), all of which were shared within the hunters’ and foresters’ networks in the study area, as well as in wider regions of the Alpine and pre-Alpine region.



- **Stelvio National Park (partner responsible: ERSAF)**

As defined in the Deliverable of Action A4 ([Deliverable, Annex\\_MR1\\_A4\\_2](#)), the study area inside Stelvio NP represented the control site where wolves were absent. Because the abundance of roe deer at the site is very low, capture and collaring efforts concentrated on red deer. Red deer were equipped with GPS collars since the beginning of the study (Fig. 5) in particular 15 were captured and marked with ear tags and simple VHF collars in the winters between 2020 and 2022. More captures took place in the winter 2023-24, and resulted in the capture and making of 4 deer equipped with GPS collars and 6 deer with optical tags. GPS collars were to track deer movement over the study area. Variation in habitat selection and activity patterns of prey species was investigated using camera traps and a scientific paper is currently under evaluation by peers. These devices will also be used to build models to assess the co-occurrence of different species of predators and prey. To this aim, **since 2020 we have deployed 50 camera traps over the study area** (Fig. 7) using a random-tessellation sampling design (see Deliverable for Action A4, ([Deliverable, Annex\\_MR1\\_A4\\_2](#)). The camera traps were randomly placed within each grid cell and are active during the extended summer season (May-October). As to this day, **this component of the C3 study is in its 5<sup>th</sup> year of monitoring in Valfurva. Between 2020 and 2024, over 500,000 pictures** have been taken, including nearly 250,000 of red deer and some 15,000 of roe deer. As for hunter participation, **a workshop about the study was organised by ERSAF and Stelvio NP to local hunters on December 21, 2021** (Fig. 8 and [Milestone, Annex\\_MR1\\_C3\\_03](#)). **Sixty hunters were informed and had the opportunity to discuss with the project team about the study design, protocols and objectives.** Additional hunters (37) that collaborate with the project team to regulate the density of red deer in Valfurva were also informed about the study. **Four meetings with local hunting communities have been carried out between November and December 2023** within the LIFE WolfAlps EU project, during which they will be informed about the current study. Furthermore, **two other meetings with hunters about the study of predator-prey relationships were carried out in April and May 2024.** As of 2023, the presence of wolves has been ascertained (with two packs) in two territories neighbouring the control study area planned for the C3 implementation. Therefore, until 2023, the Stelvio study area could be considered as “wolf pack free”. A pair is suspected to be present in the study site as of 2024. Future studies will be conducted with the aim to investigate the variation in spatial behaviour and physiological parameters of the red deer population. All details of the activities and investigation performed in the Stelvio study area are described in the [Local Report Deliverable, Annex\\_FR\\_C3\\_03](#).



Fig. 5. Red deer

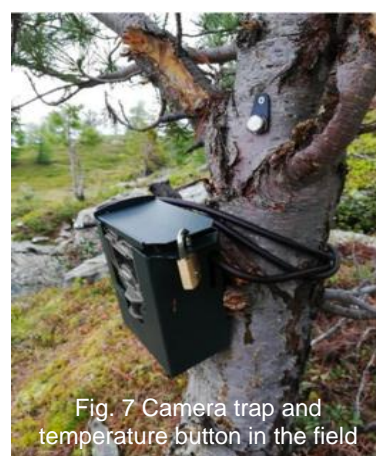


Fig. 7 Camera trap and temperature button in the field



Fig. 8. Workshop

- **Maritime Alps (partners responsible: UNITO and APAM)**

In the Italian Maritime Alps, field activities officially started in September 2021 following a first workshop with stakeholders on September 16, 2021 in Chiuse Pesio to present the goals and activities of the project ([Annex\\_MR1\\_C3\\_04](#)). Field activities are conducted every day, all year around and until the end of the project by a team from UNITO (masters students, 1 full time PhD, 1 senior researcher/Professor), and 4-6 staff from APAM and personnel from the CACN5 hunting district. During the three years several master students are involved in the project tfor their master thesis: in total 12 master students and 3 trainees from university. Hunters are actively involved following an agreement with the **CACN5 Hunting District in which they have become LWA EU Stewards of the project** (Fig 9). The details of the agreement were discussed in a meeting held on February 11, 2022 ([Annex\\_MR1\\_C3\\_05](#)).

As defined in the Deliverable of Action A4 ([Deliverable, Annex\\_MR1\\_A4\\_2](#)), and in accordance with the agreed sampling design, field activities include: capture and GPS collaring of roe deer, camera trapping,

systematic wolf monitoring and collection of data on dead roe deer (hunted, predated, roadkill, etc.). All the activities are being carried out with the full collaboration of the entire team described above as well as with hunters.

In November 2021, **8 box traps** were set up by APAM (Fig. 9). In order to identify the most favourable sites for capture, several zones were previously monitored using camera traps to verify attendance by roe deer and their behaviour towards the positioned attractors and box traps (Fig. 11). The areas were initially chosen based on APAM staff and hunters' previous knowledge. Between 2022 and 2023 **Five capture sites** were definitely chosen (based on the number of roe deer seen per day) and a total of **8 box traps were placed** (3 within the Park and 5 within the CACN5 hunting district). A workshop involving local hunters was organised on February 16-17, 2022 to prepare the capture teams and discuss protocols and methods, and the **collaboration with hunters is progressing**, also in following hunting data at the hunting district. Roe deer captures activities started in **February 2022: three capture sessions** were conducted in each winter season from dec to march. The last one closed on **30 march 2024, and in total 19 roe deer were captured** and equipped with GPS-Iridium Lotek collar, and their GPS-tracking is still ongoing. As defined in the sampling design, camera traps were randomly allocated in a grid of 79 cells over the study area (N = 59 annual and 20 summer photo traps). Given that some phototaps have been stolen, a particular strategy has been developed to hide them (Fig. 12). Localizations of camera traps were shared with the hunting district. The mean of trap days for the cameras was  $112 \pm 38$  days. Moreover, 25% of the total CTs were located inside the Marguareis Natural Park (i.e., protected area, where hunting is prohibited and car access restricted) and the remnant in regulated hunting areas. At the moment, over **400,000** images have been recorded from camera trapping from the beginning of the project.



Fig. 9. Hunters setting up a box



Fig. 11. Roe deer entering a box trap



Fig. 12. Setting up a trap camera

In the meanwhile, a particular intensive sampling effort has been conducted every year in the C3 study area of the Maritime Alps and neighbouring territories: a number of 18 systematic transects are covered regularly (250 km) by the project team at least once a month. Moreover, two sessions of wolf capture were performed in 2023 and 2024 but unfortunately unsuccessfully. However, despite this, camera trapping, diet analysis, kills analysis, snow-tracking were used for food ecology and other analysis of wolf movements in order to correctly evaluate the wolf presence. Anyway, a GPS-collared dispersal wolf (details in [Annex\\_MR2\\_C5\\_03](#)) travelled the Maritime Alps study area, providing very useful data for the purpose of this study. The team conducted an intensive analysis of cluster feeding sites, which is giving important information on its food ecology.

In order to compare characteristics of dead animals from different mortality causes, in 2022 roe deer carcasses have been regularly documented and analysed, collecting **95 roe deer carcasses**, also with the collaboration of hunters: **84 hunted** roe deer have been documented during the hunting season and 11 for other causes of mortality (9 road kills and 2 wolf kills). Moreover, a detailed analysis of hunted roe deer data from 2000 to 2022, both spatially and demographically, has been conducted over the hunting district in order to also understand the impact of hunting on the roe deer population. Farming presence in the study area has been monitored with the collaboration of 12 breeders/farmers, who allowed us to install 19 GPS data-loggers to their livestock and guarding dogs, to evaluate interactions between GPS-collared roe deer and farming when livestock is present within the roe deer's home-ranges. All activities, sampling effort quantification and results are described in detail in the C3 [Local Report Deliverable](#), [Annex\\_FR\\_C3\\_04](#). The report also details the close collaboration with hunters throughout the project period: each year we organised a meeting to present the interim results to all local hunters. Other meetings were organised to share training and dissemination activities. In the last year, two more meetings were organised by the APAM and a specific questionnaire was sent to hunters to find out their knowledge and opinions about the interaction between wolf-prey and human activities (see [Annex\\_FR\\_C3\\_06](#) and more details below).



- **France (partner responsible: OFB)**

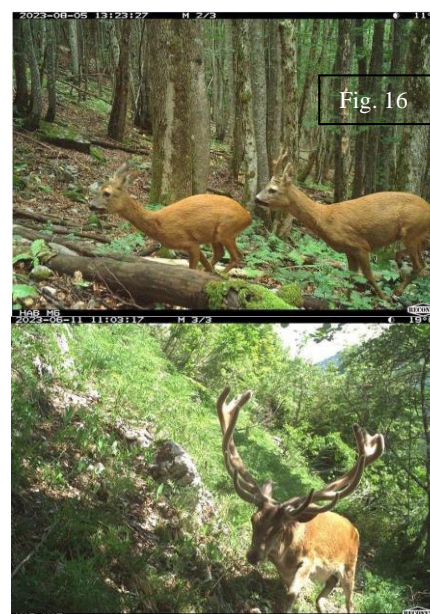
Implementation of the LWA EU predator-prey study in France was challenging but ultimately successful. Difficulties were fundamentally due to a lack of trust between the OFB and different stakeholders, including hunter federations at both the national and local level, because of a history of disagreements and misunderstandings over wolf management and the impact of predation on hunting (see the full discussion in [chapter 6.2.](#)). Yet despite this challenging background and after unsuccessful attempts to identify a study site in the Vercors and Belledonne massifs ([Annex\\_MR1\\_A4\\_3](#)), **the project team succeeded in initiating the LWA EU predator-prey study in the Bauges Hunting and Wildlife Reserve in the northern French Alps** (see also the [Deliverable, Annex\\_MR2\\_A4\\_1](#) which updates the [Deliverable, Annex\\_MR1\\_A4\\_2](#), replacing the Vercors and Belledonne massifs with the new study area, i.e. the Bauge Massif).



First confirmation of the permanent presence of a wolf pack in this mountain range, where the OFB has been conducting studies on ungulates since the 1980s, was obtained in 2019-2020. Several roe deer (and other ungulates, particularly chamois) have already been captured and GPS-collared in the area. Ten GPS collars for roe deer were acquired with LWA EU funds in April 2023 and are ready to be deployed (Fig. 14). Capture sessions were organized throughout the summer of 2023 but were unsuccessful. In 2024, one roe deer was captured and collared, but died a few weeks later, almost certainly from wolf predation. Data from camera traps (see below) suggest that the presence of roe deer in the study site is rather low, possibly due to the presence of wolves but probably because of a noticeable increase in the presence of red deer, a stronger competitor that tends to exclude roe deer from prime habitat. Wolf captures were not attempted given local opposition from livestock breeders.



**In the summer of 2023, the OFB began the camera trap component of the study in the area.** Sixty camera traps were installed in the Bauges Hunting and Wildlife Reserve and data collection continued until the end of October. Forty-four images of wolves have been acquired as of September 2023 (Fig. 15), as well as hundreds of pictures of prey such as roe and red deer (Fig. 16). Only 2 camera traps were stolen but quickly replaced in a nearby but more discreet location. From December 2023 to March 2024, just under half the camera traps were removed from sites that became inaccessible during winter, but returned to the field in April 2024. Data acquisition is currently ongoing, and it is expected to be used in the LOUPE project that is the follow-up to the LWA EU C3 study in the Bauges reserve. Preliminary analysis of camera trap data has shown strong overlap between wolves, roe deer and wild boar in the study site, but much less between wolves and chamois.



Finally, as requested and granted, the OFB used LWA EU funds to acquire a quad which is in use and that has greatly improved access to the study area and the security of LWA EU staff (Fig. 17).



**After years of opposition in collaborating with the OFB on a predator-prey study, the Large Carnivore Working Group of the National Hunter Federation issued a positive opinion on the study on March 30, 2022.** Locally, this has been followed by regular interactions between the LWA EU team and **hunters**, and a **workshop/training was performed on 08/09/2022** in collaboration with the French forestry agency (ONF) ([Annex\\_MR2\\_C3\\_03](#)).

LWA EU staff have participated in meetings in which hunting quotas are defined. **Local hunters have been regularly invited to participate in camera trap monitoring and roe deer captures, and are kept**

**informed of the project through meetings, workshops and spontaneous interactions in the field.** In 2024, local hunters agreed to participate in a communication video about action [C3 in the Bauges reserve](#), in connection with Action E1. All the activities performed are discussed in depth in the [Local report](#) of the Bauges' study area was drafted as expected in December 2023 ([Deliverable, Annex\\_FR\\_C3\\_05](#))

#### **- Analysis of the habitat selection of roe deer under wolf and human predation risk**

In the second part of 2023, the international working group of action C3 pooled the data obtained from roe deer equipped with GPS collars and began the habitat selection analysis as described in action A4, to compare the different study areas in a unique and shared analysis. The rich GPS dataset derived from 61 collared roe deer (35 in France, 13 in the Maritime Alps in Italy, and 13 in Slovenia) contains over 200 000 raw GPS locations.

This important cross-border collaboration involved sharing data, approaches, and discussions, leading to interesting results on roe deer habitat selection under different landscapes of fear.

**A resource selection function (RSF) analysis was performed to assess the habitat selection behaviour of roe deer under wolf and human predation risk** by capitalizing on the significant differences between study sites (e.g., historical, long-term wolf presence in the Maritime Alps of Italy, recent wolf recolonization in Slovenia, and before-and-after wolf recolonization in Bauges, France). **Results show great variation between study sites and reveal how roe deer use of habitat is strongly context-dependent in highly anthropogenic landscapes.** The research also highlights the significant role of humans in animal distribution and use of space, really important for management issues. The work has been submitted to the editor for review ([Deliverable, Annex\\_FR\\_C3\\_01](#)) and has already been presented during the Final Conference of Trento and at other conferences in Italy and abroad and as already stated.

## **2) Involvement of hunting organizations**

The active involvement of the hunting organisations was achieved in all 4 core areas, as detailed in previous paragraphs. In three areas in particular - Bauges, Val Pesio and Jelovica - hunters also engaged with the project by answering a specific questionnaire on their attitudes and knowledge about wolves, prey and hunting. Despite low sample sizes, precluding any general conclusion about the attitudes and knowledge of hunters in each study area, results often showed disagreement between the responses provided by hunters and the information that can be found in the scientific literature. Most respondents seemed to overestimate the effect of wolves on populations of wild prey, and frequently called for a reduction in wolf numbers as a condition for accepting the presence of the predator in their hunting grounds. Despite not expected by the project, the data coming from this survey were analyzed and we provided an additional report (see [Annex\\_FR\\_C3\\_06](#)).

Several meetings with local hunters by project partners: APAP, APOS, RAVA, RELO, RELI, AREC, MUSE and APOS) from areas other than the four study sites are planned by December 2023, some of which have already taken place (2 by APAP ([Annex\\_FR\\_C3\\_13](#)), 3 by METO ([Annex\\_MR1\\_C3\\_06](#), [Annex\\_MR2\\_C3\\_06](#) and [Annex\\_MR2\\_C3\\_07](#)), 1 by MUSE ([Annex\\_MR1\\_C3\\_07](#)), 1 by AREC ([Annex\\_MR2\\_C3\\_08](#)), 1 by APOS ([Annex\\_MR1\\_C3\\_08](#)), 3 by RELI ([Annex\\_FR\\_C3\\_07](#)), 3 by RELO-Ersaf ([Annex\\_FR\\_C3\\_08](#)) 2 by RAVA ([Annex\\_FR\\_C3\\_09](#)) 2 by APOS ([Annex\\_FR\\_C3\\_10](#) [Annex\\_FR\\_C3\\_11](#)). In France, where 17 meetings were achieved (see from [Annex\\_MR2\\_C3\\_09](#) to [Annex\\_MR2\\_C3\\_17](#) and [Annex\\_FR\\_C3\\_14](#), reporting the latest of 2024).

Finally, a study on wolf diet to be conducted by the Mercantour National Park in France, originally foreseen in Action A2, has been moved to action C3 to allow for comparison and interpretation of results in light of the other diet analyses that will be conducted in some other study area of action C3. The study conducted 15 years later on samples collected from 2014 to 2023 shows a change in the wolf's diet. Whereas domesticated prey occupied a significant part of the diet in the 2011 study, particularly in the Roya valley where the animals are present all year round (no transhumance, unlike the western part of the study area), their proportion has drastically decreased. The wild prey species are identical, but their proportions have changed. Red deer now occupy a predominant place alongside chamois, which was not the case 15 years ago. Wild boar is also making a breakthrough, particularly in the Roya valley. Mouflon and ibex have decreased sharply, while the proportion of roe deer varies from pack to pack. The latter have increased from 4 to 11 in the study area, but 4 should be considered with caution. The generalization of preventive measures to all breeders in the park, combined with the increase in all wild ungulate species (with the exception of

mouflon) following reintroduction and population reinforcement operations of ibex and red deer, are probably responsible for these changes between the two study periods. The wolf's diet reflects the prey available in the territories it occupies and its ability to hunt them.

The **awareness campaign** dedicated to the involvement of hunters (Actions A4 and C3) and the dissemination of the findings beyond the evaluation areas, has been developed and is now fully operational, as described in detail in Action E1. News articles and posts on social media concerning the progress and achievements of the concrete action were published. Moreover, communication with hunters and foresters through mailing-lists and mobile applications was implemented in order to keep informed all members involved. A video clip on the field activities conducted in France (by OFB) was published on the project's social media as well as 7 videos regarding the action in Valle Pesio, Italy (by Aree Protette Alpi Marittime). Moreover, a booklet with infographics and illustrations was produced in order to present the final results of the study conducted in all sites across the Alps to the hunters involved and the other interested stakeholders, as described in Action E1.

		2019		2020				2021				2022				2023				2024		
		3 T	4 T	1 T	2 T	3 T	4 T	1 T	2 T	3 T	4 T	1 T	2 T	3 T	4 T	1 T	2 T	3 T	4T	1 T	2 T	3 T
<b>Action C3</b>	Proposed																					
	Actual																					

DELIVERABLE	Action	Deadline	Progress
4 local reports (one in each of the 4 core areas)	C3	12/2023	Done All 4 annexes are merged in <b>Annex_FR_C3_15</b> (also individually available Annex_FR_C3_02, Annex_FR_C3_03, Annex_FR_C3_04, Annex_FR_C3_05)
1 scientific publication	C3	08/2024	Done <b>Annex_FR_C3_01</b>
MILESTONE	Action	Deadline	Progress
First local training of hunters and operators	C3	12/2021	Completed
First meeting with hunters	C3	12/2021	Completed
First roe deer/red deer collared	C3	12/2021	Completed
First wolf collared	C3	12/2022	Completed

Expected result	Deadline	Achieved result and status
Implementation of the predator-prey evaluation in the study area in France where wolf packs and prey are present, defined by OFB	12/2023	Completed

Implementation of the predator prey evaluation in the study area in Italy where wolf packs and prey are present, defined by APAM	12/2023	Completed
Implementation of the predator prey evaluation in the study area in Slovenia where wolf packs and prey are present, defined by SFS and UL	12/2023	Completed
Implementation of the predator prey evaluation in the study area in Italy where wolf packs are NOT present and prey are present, defined by ERSAF	12/2023	Completed
1 workshop/training session in France organized by OFB	12/2022	Done (09/2022)
1 workshop/training session in Slovenia organized by UL and SFS	12/2022	Done (11/2022)
1 workshop/training session in Italy in Stelvio National Park organized by ERSAF	12/2022	Done (12/2021)
Common approach in disseminating the findings beyond the evaluation areas, in collaboration with hunter associations and districts (in connection with E1.1)	12/2021	Done (03/2022)
Production of gadgets specifically designed for hunters (planned in E1.2)	12/2022	Modified: following a communication-technical meeting at APAM, it was decided to use the budget for the production of video clips on the whole action in the Maritime area.
At least 1 launch press release about predator-prey study's results (in connection with E1.2)	12/2022	Done
At least 1 news on the project website about predator-prey study's results (in connection with E1.2)	05/2024	Done (39 news published)
At least 1 post on the project social media about predator-prey study's results (in connection with E1.2)	05/2024	Done
At least 3 posts with interviews to hunters become stewards (in connection with E1.2)	05/2024	Done
2 meetings with at least 30 local hunters in Alessandria province by APAP	12/2023	Done
2 meetings with at least 30 local hunters in Torino province by METO	12/2023	3 meetings Done
2 meetings with at least 30 local hunters in VCO province by APOS	12/2023	done
In regione Valle Aosta RAVA will organize at least 2 meeting with local hunters	12/2023	done
In regione Lombardia RELO and ERSAF will organize at least 2 meeting with local hunters	12/2023	done
In regione Liguria RELI will organize at least 3 meetings with local hunters	12/2023	done
In provincia TRENTO MUSE will organize at least 1 meeting with local hunters	12/2023	Done
In Austria AREC will organize at least 1 meeting with local hunters	12/2023	Done
In France OFB will organize at least 20 meetings with local hunters to share results of the study	12/2023	17 meetings done
In Slovenia SFS will organize at least 1 meeting with local hunters	12/2023	Done (8 meetings)
Analysis of wolf diet for evaluation of the use of wild and domestic prey in Mercantour National Park, France	12/2023	Done



### 6.1.12 Action C4 - Establishment of an integrated surveillance of the wolf status at the Alpine population level

Beneficiary responsible for implementation: APAM, UNITO (UNITO: partner added to the action with the Amendment Request n. 1 to the Grant Agreement)

Beneficiaries involved: APAC, APAP, APOS, METO, RAVA, RELO, RELI, PNDB, SFS, UL, VUW, OFB, PNM

The goal of this action was to start a comprehensive, optimised scheme for the surveillance of the Alpine wolf population that covered its entire range, based on the strategy developed in Action A5 ([Annex\\_MR1\\_A5.1\\_3](#)).

Thanks to the workshops organised in Action A5 we established a population scale surveillance strategy, based on shared protocols, to join transboundary monitoring information. **Each country up to date implemented the first national wolf surveillance system for the first year in 2020/2021 in an exhaustive manner performing the Milestone as expected.** Full national reports that summarise the effort, the results, and the full analyses of the 1<sup>st</sup> sampling year are visible in the following annexes: for Slovenia in [Annex\\_MR1\\_C4\\_1](#), for France in [Annex\\_MR1\\_C4\\_2](#), for Austria in [Annex\\_MR1\\_C4\\_3](#), and for Italy in [Annex\\_MR1\\_C4\\_04](#). In particular for Italy, the wolf monitoring in 2020/2021 was part of the first national monitoring coordinated at the national scale by ISPRA. The Italian monitoring system organized over the Italian alpine regions, involved not only the LIFE project partners, but was replicated in the other regions and provinces not partners of the project (i.e. Regione Veneto, Regione Friuli Venezia Giulia, province of Trento and Bolzano), and resulted in a scientific publication ([Annex\\_MR2\\_C4\\_02](#), or see [A multidisciplinary approach to estimating wolf population size for long-term conservation](#)).

After that every partner and country implemented the surveillance system for the year 2021/2022, 2022/2023, and 2023/2024 estimating the trend in distribution (as described in [Annex\\_MR1\\_A5.1\\_3](#)). In Slovenia, the wolf monitoring in 2020/2021 and 2022/2023 were financed from the national budget of the Republic of Slovenia.

Based on the results coming from the national wolf surveillance system in 2020/2021, 2021/2022, 2023/2024, the annual outcome at the international scale on the alpine wolf population status was done. The deliverable expected by the Project was drafted by merging the transboundary monitoring information coming initially with 2020/2021 results (April 2023); then the integration of the 2021/2022 outcome has been inserted in a single document draft in September 2023 and titled “THE WOLF ALPINE POPULATION IN 2020-2022 OVER 7 COUNTRIES: The integrated evaluation of the status of the wolf Alpine population in 2020/2021 and 2021/2022” (**Deliverable, Annex\_MR2\_C4\_01**). With the same approach we updated the Deliverable to the final deliverable with results from 2020 to 2024 for the entire alpine chain (**Deliverable, Annex\_FR\_C4\_01**). The first 2020-2022 International Alpine Annual Report was presented at the meeting of the WISO working group of the Alpine Convention on the 16<sup>th</sup> of October 2023. The members of the WISO Group acknowledged the important work done by the LWA EU project and WAG and agreed to endorse the report of the Alpine wolf population, which also resulted in a shared scientific publication over the 7 countries of the Alps, involving not only the partners’ countries (Austria, Italy, Slovenia, and France), but also extending the collaboration to Switzerland, Germany and Liechtenstein ([Annex\\_MR2\\_C4\\_03](#) or see [Transboundary Monitoring of the Wolf Alpine Population over 21 Years and Seven Countries](#)).

The **awareness campaign** dedicated to wolf monitoring and population estimate and the dissemination of the findings beyond the evaluation areas, has been developed as described in Action E1. News articles and posts on social media concerning the progress and achievements of the concrete action were published, as well as press releases on the main steps of C4 actions. An animated clip dedicated to this action has been produced and released.

		2019		2020				2021				2022				2023				2024			
		3 T	4 T	1T	2T	3T	4T	1T	2T	3T	4T	1T	2T	3T	4T	1T	2T	3T	4T	1T	2T	3T	4T
<b>Action C4</b>	Proposed																						
	Actual																						

DELIVERABLE	ACTION	EXPECTED	PROGRESS
Annual report on the alpine wolf population status 2020/2021	C4	15/12/2021	Completed 30/04/2023 <b>Annex_MR2_C4_01</b>
Annual report on the alpine wolf population status 2021/2022	C4	15/12/2022	Completed 30/09/2023 <b>Annex_MR2_C4_01</b>
Annual report on the alpine wolf population status 2022/2023 and 2023/2024	C4	15/12/2023	Completed <b>Annex_FR_C4_01</b>
Final report on the trend of the alpine wolf population status 2020-2024	C4	08/2024	Completed <b>Annex_FR_C4_01</b>
MILESTONE	ACTION	EXPECTED	PROGRESS
First data collected with the international approach by each country	C4	15/12/2021	Completed 15/12/2021

Expected Results	Achieved Results and Status
ITALY - implement the wolf surveillance system on a yearly basis in 2020/2021, 2021/2022, 2022/2023 and 2023/2024	Completed
FRANCE - implement the wolf surveillance system on a yearly basis in 2020/2021, 2021/2022, 2022/2023 and 2023/2024	Completed
AUSTRIA - implement the wolf surveillance system on a yearly basis in 2020/2021, 2021/2022, 2022/2023 and 2023/2024	Completed
SLOVENIA - implement the wolf surveillance system on a yearly basis in 2020/2021, 2021/2022, 2022/2023 and 2023/2024	Completed
ITALY 2020/2021, 2021/2022, 2022/2023 and 2023/2024 Annual Report: in italian, report on the national wolf population status for Italy	Completed
FRANCE 2020/2021, 2021/2022, 2022/2023 and 2023/2024 Annual Report: in french, report on the national wolf population status for France	Completed
AUSTRIA 2020/2021, 2021/2022, 2022/2023 and 2023/2024 Annual Report: in austrian, report on the national wolf population status for Austria	Completed
SLOVENIA 2020/2021, 2021/2022, 2022/2023 and 2023/2024 Annual Report: in slovenian, report on the national wolf population status for Slovenia	Completed

### 6.1.13 Action C5 - Wolf-dog hybridization and injured wolves: detection and control in the Apennine ecological corridor and in the Alps

Beneficiary responsible for implementation: **RELI**

Beneficiaries involved: **APAP, APAM, APAC, METO, UNITO, RELO-ERSAF**

The action started in January 2021 following the preparatory Action A6, and was finalized successfully in the summer 2024, with replicates and additional outcomes in the Cottian Alps and in Lombardy, as described in detail in [Deliverable, Annex\\_FR\\_C5\\_01](#) and summarized in this chapter.

The implementation of this action addressed, for the first time in the context of the wolf alpine population a new severe conservation threat for the species (Threat 7). In fact, during previous projects and monitoring campaigns, no hybrids were detected. Since the beginning of the wolf surveillance activities, started in winter 2020-2021, a **big effort in detection of hybridization phenomenon** was performed over the Alpine territory and above all on the Apennine corridor. In coordination with Action C4, 4 hybrid packs were found in winter 2020-2021 (see the map below), 2 of which in the **Apennine Corridor** and 2 cases in the **Cottian Alps** (western part) and Julian Alps (eastern part, outside from the the project area) ([Annex\\_MR1\\_C5\\_01](#)). The cases, preliminarily detected by the Bodies responsible for the species surveillance, were confirmed by the genetic analysis carried out in the frame of the Action C4, as described in the “Annual Report on the national wolf population status for Italy” ([Annex\\_MR1\\_C4\\_4](#)). More recently (in 2023), a second hybrid pack was detected in the Cottian Alps (Upper Susa Valley). A further hybrid pack was detected in the Upper Susa Valley, which established from a dispersal introgressed wolf related with the hybrid pack in the Piemontese Apennine Corridor.

Also, RELO and ERSAF, in collaboration with ISPRA and University of Pavia, invested additional efforts, following the strategy developed in Action A6, in wolf-dog hybridization detection in Lombardy Apennines, also with genetic analysis on scat samples.



Fig 1 - Map and images of the wolf-dog hybridization cases detected in the LIFE Wolfalps EU Project Area

- 1) The mitigation of wolf-dog hybridization, according to the project proposal, was planned in the **Apennine Corridor**, as the main area of connection with the Northern Apennine, and **RELI and APAP** have been involved in the task since the beginning of the project. However, considering the settling of a first hybrid pack in the province of Turin (Cottian Alps, Lower Susa Valley) in 2020, **APAC, METO and UNITO, agreed their involvement and an additional commitment (not originally planned)**, implementing interventions addressed to two hybrid packs (one in Lower and subsequently in a second pack in Upper Susa Valley).

The interventions in the field started in 2022, after the definition of the **teams of capture** in A6 ([Milestone, Annex\\_MR1\\_A6\\_04](#)) who received a **specific training** to capture wolf/hybrids in Emilia Romagna, in April 2022 ([Annex\\_MR1\\_C5\\_02](#)) thanks to the collaboration with WAC. Additionally, in order to provide a specific preparation to intervene on the wolf-dog hybridization case in the Alpine territory an APAC-METO-UNITO team operating in the Cottian Alps was defined and trained by UNITO as described in the [Annex\\_MR2\\_C5\\_01](#). All the interventions have been performed following the “Long term shared management of hybrids at international alpine scale” [Deliverable, Annex\\_MR1\\_A6\\_02](#).



**In May 2022 the first wolf-dog hybrid in the Apennine Corridor (in Liguria) was captured-sterilised and released equipped with a GPS collar (Milestone, see Fig 2)**

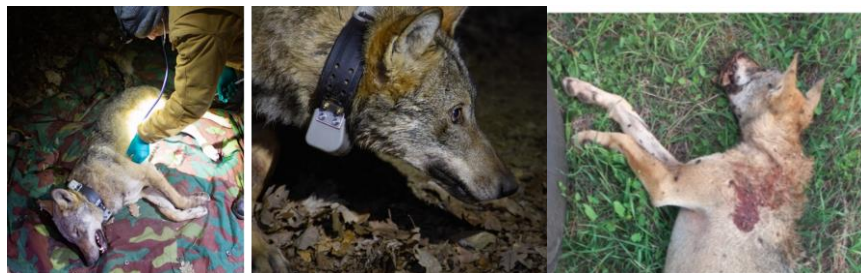


*Fig 2 - First wolf-dog hybrid in the Apennine Corridor (Liguria pack) was captured-sterilised and released equipped with a GPS collar (Milestone)*

Specifically,

- **RELI** staff was trained and assisted by the Wolf Apennine Center (WAC) due to a (a specific convention between RELI and WAC was formalised). RELI, **following the Ministry Authorization received on 16/03/2022** (on ISPRA advice), successfully started the first catching session in May 2022 **achieving the expected Milestone of the Action**. The hybrid was monitored until 18 February 2023, when the collar stopped working (an event of poaching is suspected). A second intervention was performed in October 2023, capturing a young wolf affected by mange, but belonging to the wild wolf population.

- **APAP**, supported by the WAC-PNATE too, has been implementing the interventions in the Apennine Corridor (in Province of Alessandria), and received the Authorization of the Ministry in May 2022 (requested on 26/04/2020 by Piemonte Region). The field activities started in February 2023, **despite many problems connected to the African Swine Fever** in the Province of Alessandria, involved as an infected area, delayed the start of the scheduled capture session. These challenges have been overcome thanks to a **great effort of coordination provided by APAP**, which involved the Province of Alessandria (supported Body) for achieving this task. This session led to the capture of a 3-years old female, then identified (both phenotypically and genotypically) as a wild type wolf, and belonging to a nearby wolf pack. Nevertheless, it was immediately released equipped with a GPS collar and monitored during the following months, until the discovery of the wolf died due to a poaching event during its dispersion in Liguria, Province of Savona, in September 2023 (see Fig 3).



*Fig 3 - The 3-years old wild type female, captured by APAP supported by WAC during the hybrid capture session of February 2023 in the Apennine Corridor (Alessandria Province). The wolf was released equipped with a GPS collar, and then found illegally shot in September 2023.*

APAP performed a following capture session in September 2023 leading to the capture of the alpha male of the hybrid pack, a 10-years old blond wild-type wolf (Fig 4). Unfortunately, it was discovered dead a few days later at the bottom of a cliff and taken to the UNITO Veterinary Clinic in Grugliasco, for an autopsy, which determined that it had died of natural causes. **This event led to the tourn-over of the hybrid pack**, which has been finally replaced by a wild-type new pack in 2024.



Fig 4 - Alpha male of the hybrid pack captured in the Province of Alessandria, a 10-years old blond hybrid wolf

- As to the **Cottian Alps hybridization case** (in Torino Province), the project didn't plan an explicit intervention. However, considering the relief of the hybridization threat, **APAC, METO and UNITO have been creating a task-force** and a modification to their commitments and budget, in order to implement the hybrid removal intervention in this zone, **as best practice replicate**, pooling their technical and economic effort in collaboration with CGC (APAM) and Regione Piemonte. This organization has been providing trappers, field and surgical veterinarians and support staff (e.g. technicians, rangers etc). See additional training in [Annex\\_MR2\\_C5\\_01](#). Regione Piemonte (on behalf of the Beneficiaries involved) obtained the Authorization by the Ministry (on ISPRA advice) to intervene on this additional case. The first intervention was performed in October 2022 leading to **captur-sterilize and release a young hybrid male**, then equipped with a GPS-collar. The surgical sterilisation was done by UNITO-CANC, who transported the wolf in a Mobile Clinique equipped for surgery (owned by UNITO-CANC) (see Fig. 5). The GPS collar of the hybrid stopped working at the beginning of the spring 2023, but documented that it came back in its pack. A second session was performed in spring 2023 (April), aiming to capture the fair alpha hybrid male, but unfortunately without success. **Further sessions** of hybrid captures were **addressed to the second hybrid pack detected in Upper Susa Valley** (in the territory of an historical pack of the Province of Torino). Therefore, 3 sessions were organised in October and November 2023, **leading to the capture of a young introgressed male** (related with the hybrid pack of Alessandria). The young wolf was sterilised and released in a few days equipped with a GPS-collar.

- **No intervention team was planned/established in Lombardy**; however, **an opportunistic response occurred when an injured wolf was recovered in the province of Pavia**. The female wolf, initially mistaken for a dog, was **rescued by RELO**, treated, and found to have a complete fracture. According to the guidelines for managing wolf-dog hybrids defined in Action A6, and following genetic testing and recommendations from ISPRA, RELO made efforts (with its own contribution) to sterilise the hybrid/introgressed wolf, and released it equipped with a GPS collar in June 2024.

Fig. 5 - Young hybrid captured belonging to the Cottian Alps hybrid pack. Images of the intervention performed in October 2022 (Capture performed by APAC-METO-UNITO) Transportation with the Mobile Clinique equipped for surgery owned by UNITO-CANC and releasing of the hybrid wolf.





Fig. 6 - Hybrid injured female recovered and sterilised in Lombardy

- 2) The captive facility "Uomini e Lupi" (i.e. "Men and Wolves") managed by APAM is the reference for the possible housing of hybrids and injured animals, which can be recovered from the wild and released after cured, if conditions allow, or kept in captivity. This structure already hosts rescued wolves which are no longer releasable. In 01/2023 a workshop was organised by APAM-UNITO involving technicians of Alpine Regions and ISPRA to discuss issues and challenges in recovering and managing injured wolves when found and to maintain shared captive facilities protocols ([Annex\\_MR2\\_C5\\_02](#)). A second meeting/field visit in the "Centro Tutela e Ricerca Fauna Esotica e Selvatica- Monte Adone" (Sasso Marconi - BO) was performed by APAM for improving the coordination between the Alps and the Apennines in managing maintained in captive facilities wolves ([Annex\\_FR\\_C5\\_02](#)). As a result of comparisons and inspections at other wildlife areas, within the framework of action C5, it emerged the need to carry out works to adapt the APAM's wildlife area, for improving the conditions for keeping injured wolves and possible hybrids. The interventions mainly concerned adaptations for the safety and monitoring of convalescent animals, enhancing the existing systems. From April 2022 to September 2024 the area has been home to **8 wolves** (as reported in MR2), and additionally **2 further wolves were temporarily (few months) hosted** during the last year of project (1 released and 1 suppressed for bad conditions).
- 3) From the beginning of the project until September 2023, **13 injured wolves were recovered** in the framework of the Project LIFE WolfAlps EU (8 already reported in MR2), mainly in the western Piedmontese Alps and in Liguria Region, where the wolf packs density is high. All cases managed are described in [Deliverable, Annex\\_FR\\_C5\\_01](#) (see pp. 25-29).
- 4) The **awareness campaign** developed for hybridization and for building support towards management and conservation actions was effectively achieved. News articles, posts, press releases on the risk to wolf conservation derived from hybridization, as well as description of the main achievements of C5 actions have been published (see Action E1). An animated video clip together with a brochure have been developed and distributed. Considering the limitations imposed by Covid-19 pandemic, the **round tables with environmentalists and stakeholders** to agree/share the hybrid management approaches foreseen in A6 were moved to C5, and performed by APAP with 3 meetings ([Annex\\_MR1\\_C5\\_03](#)).  
In summary, **9 interventions were addressed towards hybrid packs** in the Apennine Corridor and Cottian Alps: 2 by RELI, 2 by APAP, 5 by APAC. **4 wolf-dog hybrids were managed** (2 hybrids expected): 1 by RELI, 2 by APAC, 1 by RELO, **12 interventions on injured wolves** (3 injured wolves expected).

		2019		2020				2021				2022				2023				2024			
		3 T	4 T	1 T	2 T	3 T	4 T	1 T	2 T	3 T	4 T	1 T	2 T	3 T	4 T	1 T	2 T	3 T	4 T	1 T	2 T	3 T	4 T
Action C5	Proposed																						
	Actual																						

<b>DELIVERABLE</b>	<b>ACTION</b>	<b>EXPECTED</b>	<b>PROGRESS</b>
Report of documentation of every project intervention, concerning wolf-dog hybrids and/or injured wolves recovery	C5	05/2024	Done <b>Annex_FR_C5_01</b>
<b>MILESTONE</b>	<b>ACTION</b>	<b>EXPECTED</b>	<b>PROGRESS</b>
Capture-sterilize-release, or capture-sterilize-keep in captivity, the first wolf-dog hybrid	C5	05/2024	<b>Achieved</b> (in Liguria Region, by RELI)

<b>Expected and Results</b>	<b>Achieved Results and Status</b>
Detection of hybridization over the entire Alpine territory and on the Apennine corridor	Completed 05/2021 <b>Annex_MR1_C5_01</b>
Round tables with environmentalists and stakeholders to agree/share the hybrid management approaches (task moved in C5 from A6 due to the Covid-19 restrictions)	Completed <b>Annex_MR1_C5_03</b>
Interventions on hybrids: capture, sterilize and release wolf-dog hybrids, or to capture, sterilize, and keep in captivity	<b>Performed</b> 4 wolf-dog hybrids managed (2 expected)
Formally ask for ISPRA authorizations to capture wolf-dog hybrids	<b>Achieved</b> (for all target area and additional target areas)
Optimal training of the team will be organized in connection with A6 when the trapping session will start	Completed 04/2022 <b>Annex_MR1_C5_02</b> and <b>Annex_MR2_C5_01 (additional)</b>
Interventions on injured wolves: prompt rescue, capture, cure and release injured wolf, or capture, cure, sterilize, and keep in captivity if required	<b>Achieved</b> 13 injured wolves recovered
Captive facility at the “Centro Uomini e Lupi” - maintenance of captured hybrids/injured not releasable wolves	Functioning structure and hosting 8 wolves at the end of the project
Workshops will be organized in Valdieri by APAM to maintain shared captive facilities protocols	Done <b>Annex_MR2_C5_02</b> <b>Annex_FR_C5_02</b>



### 6.1.14 Action C6 - Decrease Habitat fragmentation and wolf traffic mortality through recovery of identified sink areas

#### C6.1 Decrease Habitat fragmentation and wolf traffic mortality through recovery of identified sink areas

Beneficiary responsible for implementation: **METO**

Beneficiary involved: **APAC**

**The action started in October 2019 with the acquisition signature as supporters (Form A8) by the organisations that manage the infrastructures (ANAS, SITAF and RFI) as required in the Annex II of the Grant Agreement. All supporters are reported in [Annex\\_MR1\\_E2\\_06](#), [Annex\\_MR1\\_E2\\_02](#). The Action is concluded: all Deliverables expected have been realised and Expected Results achieved. This action addresses Threat 6 and will involve at least 7 Natura 2000 Sites, as indicated in the proposal in the attached map for the Action C6.**

The action developed the following activities (some in connection with Action D3), where expected results are defined:

**1) Evaluation of previous studies and new data collected to identify corridors has been conducted** and the document “Evaluation of previous studies and new data collected to identify corridors used by wolf in Susa Valley (Turin- Italy)” produced ([Deliverable, Annex\\_MR1\\_C6.1\\_01](#)). The most critical sections in which it was a priority to intervene were identified after the analyses carried out on the data of accidents with wildlife from 2000 to 2020 in the Upper Susa Valley. The best practices conducted in several studies on the subject were also considered in the evaluation (es. Manuals and Guidelines n. 76.1 / 2011 drawn up by ISPRA and the reports produced within the LIFE STRADE). The report was then exposed to ANAS, SITAF and RFI to define a shared operational strategy.

**2) METO set up the working table to decide for new interventions and maintenance of existing infrastructures with APAC (beneficiary partner directly involved in the actions) and ANAS, RFI, SITAF (the supporters involved in road construction and maintenance) and TELT.** A collaboration with TELT, a bi-national public promoter responsible for the construction and management of the cross-border section of the TAV (Turin-Lyon), has been established since a construction site will be built within the study area ([Annex\\_MR1\\_C6.1\\_02](#)). TELT must provide for both mitigation and compensation actions to assure environmental permeability, so the collaboration will optimise results/resources. 4 meetings on line were held and co-organized by METO and APAC on a web platform to coordinate the activity within the working table ([Annex\\_MR1\\_C6.1\\_03](#)), followed by other 3 meetings with RFI and ANAS ([Annex\\_MR2\\_C6.2\\_01](#)) and direct contact with several emails and phone calls to implement the interventions.

A coordination table was also established with METO, APAC, UNITO and APAM and regular meetings were organised to carry out the joint activities between C6.1 and D3 given that these actions are interconnected.

3) 7 inspections were carried out with infrastructure managing organisations to resolve specific critical issues and for planning specific interventions. **Then, the document "Planning of interventions for the improvement of the ecological permeability of the upper Val di Susa" was produced ([Deliverable, Annex\\_MR1\\_C6.1\\_04](#))** based on the best practices and indications developed in the deliverable described in point 1. This first document has been updated with all interventions realized in the framework of the Project and listed in the attached Annex ([Deliverable, Annex\\_FR\\_C6.1\\_01](#)) as required in the Issue 42 of Cinea Letter (LIFE18 NAT IT 000972 MISMC6LET 241014).



Figure 1. Variable message panels managed by ANAS and located on roads in Upper Susa Valley.

4) Interventions and implementation of technical countermeasures were completed (cleaning underpasses, laying of fences along both the railway (2 sites including 2 Municipalities) and the motorway (1 site). The collaboration with ANAS and RFI for the maintenance of the realisations implemented will continue in the after-Life project. In addition, a strong collaboration has been established with the Upper Susa Valley Forestry Consortium. Interventions established according to ANAS were implemented (placement of road signs to alert drivers, reflective optical bollards and informative panels). In the meantime, starting from September 2022 fauna crossing alerts for drivers have been launched periodically on 4 variable message panels managed by ANAS and located in Cesana, Oulx, Claviere along Upper Susa Valley roads (Fig. 1). The same message has been transmitted on variable message panels managed by METO along provincial roads outside the C6 area.

A networking activity with LIFE SafeCrossing (in connection with Action E1) has been established for an exchange of experiences and best practices and for evaluating the replicability of some interventions. Therefore, the Project manager and Technical manager of LIFE Safe Crossing visited the Upper Susa Valley in July 2022 and a round table and field visit was arranged with technical managers of APAM, UNITO, APAC, METO.) The advertising campaign of LIFE SafeCrossing using large format roadside panels was entrusted and the panels were realized and placed at 3 different sites, on the SS24 and SP214 where wolf mortality had been reported in Susa, Salbertrand and Oulx.



At the beginning of 2022, METO made arrangements with the Province of Cuneo (project supporter) and the University of Eastern Piedmont for the implementation of the APP S.P.I.A. and then the formal agreement was defined. The APP S.P.I.A. was developed in 2017 to report to users the stretches of road with a higher rate of accidents with wildlife. The old version exclusively covered the territory of the Province of Cuneo; the new version, realised within the Project and based on a statistical model validated on new collision data, includes the entire Turin province and not the only Upper Susa Valley, permitting the amplification of the goal. The APP was finalised and, currently, it was downloaded by about 1000 people (achieving the expected Milestone) ([Milestone, Annex\\_FR\\_C6.1\\_02](#)).

5) **The update of the database on road and rail accidents with ungulates and wolves for the Municipalities of the Alta Valle di Susa and for the entire Torino Province is being constantly updated** thought the collaboration of all the organisations that manage the infrastructures (ANAS, SITAF and RFI), as well as the local police forces (CUFA, Traffic Police, Municipal Police) for the collection of accident data occurring during the project.

6) **Awareness campaign implementation for accident prevention was implemented in E1** with the development of the interventions. News articles and posts on social media regarding the main achievements have been published, and a dedicated animated clip was released. Moreover, news on wolf mortality by partners was communicated through the website or press release. In order to increase awareness on habitat fragmentation and animal vehicle collision public presentations have been organised. A networking with LIFE SafeCrossing, a LIFE project specifically addressed in the prevention of carnivore vehicle collision was carried out as described in MR2.

## **C6.2 Decrease of habitat loss and integration of wolf reproductive habitat needs into spatial planning**

Beneficiary responsible for implementation: **APAM**

The action is now in progress. C6.2 is in connection with C7 and addresses Threat 6 by preventing further fragmentation, habitat loss and excessive disturbance by human activity in hotspot areas of wolf conservation (especially in Nature 2000 sites).

The deliverable “The user-friendly handbook Environmental Impact Assessment (EIA) Guidelines for wolf conservation”, expected in December 2021, was finally concluded in September 2023 ([Deliverable, Annex\\_MR2\\_C6.2\\_01](#)). The delay didn't compromise the accomplishment of the results and success of the goals expected with C6.2 and it has no negative impact on other actions.



The implementation process took time given the complexity of the topic. For this reason, the articulation of the technical contents of the document was discussed first of all with technical managers of Italian Regional Institutions, partners of the Project (RELO, RELI, VDA) and supporter (Piedmont Region) in dedicated meetings in order to share with them the purposes of the document from the beginning. The Handbook produces has been forwarded again to the technical managers of Italian Alpine Regions Institutions involved in the process as a reference technical tool to be eventually adopted in local-scale governance.

The Handbook is addressed specifically for managers in land planning, development and management: it was created as a practical handbook to promote wolf conservation through the implementation of best practices for preserving the wolf ecological needs, particularly during the breeding season in compliance with European Dispositions and scientific knowledge on the ecology of the species. Indeed, this guide provides tools and suggestions for a better implementation of the Habitat Directive, also related to the role of the wolf as an umbrella species and it is in connection with the document “Guidelines for responsible ecotourism” produced in C7 by UL ([Deliverable, Annex\\_MR1\\_C7\\_1](#)). The EIA handbook has been presented to managers in land planning, development and management (es. forestry, urban planning and tourism sector) in 3 dedicated seminars involving 77 Institutions managing 267 Natura 2000 sites (Piemonte, Valle D’Aosta, Liguria, and Lombardia) ([Annex\\_FR\\_C6.2\\_01](#)): the Milestone was reached with the first seminar carried out in Piemonte ([Milestone, Annex\\_FR\\_C6.2\\_01](#)). Finally, an updated layout of the deliverable “The user-friendly handbook Environmental Impact Assessment (EIA) Guidelines for wolf conservation” has been produced for public dissemination ([Deliverable, Annex\\_FR\\_C6.2\\_02](#)).

		2019		2020				2021				2022				2023				2024			
		3 T	4 T	1 T	2 T	3 T	4 T	1 T	2 T	3 T	4 T	1 T	2 T	3 T	4 T	1 T	2 T	3 T	4 T	1 T	2 T	3 T	4 T
<b>Action C6</b>	Proposed																						
	Actual																						

DELIVERABLE	ACTION	EXPECTED	PROGRESS
Report on the valuation of previous studies and new data collected to identify corridors used	C6.1	15/12/2021	Completed 01/04/2021 <a href="#">Annex_MR1_C6.1_01</a>
Document on the planning of the intervention to decrease fragmentation in Val di Susa	C6.1	15/12/2021	Completed 31/03/22 <a href="#">Annex_MR1_C6.1_04</a> Updated to 30/09/2024 <a href="#">Annex_FR_C6.1_01</a>
The user-friendly handbook “Environmental Impact Assessment (EIA) Guidelines for wolf conservation”	C6.2	15/12/2021	Completed 30/09/2023 <a href="#">Annex_MR2_C6.2_01</a> Updated layout in 2024 <a href="#">Annex_FR_C6.2_02</a>
MILESTONE	ACTION	EXPECTED	PROGRESS
First use of the mobile APP that signals the stretches of road most at risk of collisions with wildlife	C6.1	30/06/2022	Completed
First educational seminar for the presentation of the EIA handbook 30/06/2022	C6.2	09/05/2024	Completed <a href="#">Annex_FR_C6.2_01</a>

<b>Expected Results</b>	<b>Achieved Results and Status</b>
Set up working table with ANAS, RFI, SITAF, TELT, and METO, APAC with at least 3 meetings	Completed <b>Annex_MR1_C6.1_03</b> <b>Annex_MR2_C6.1_01</b>
Letter of commitment by ANAS/RFI/SITAF	Completed <b>Annex_MR1_E2_06</b>
Development of a mobile APP that signals the stretches of road most at risk of collisions with wildlife	Completed
Direct Interventions: the cleaning of existing underpasses and the improvement of their environmental insertion (at least 3 interventions in 3 different areas)	Completed
Direct Interventions: the installation of nets to direct wolves through the sections with greater permeability (at least 2 interventions in 2 different areas)	Completed
Direct Interventions: the verification of the state of maintenance of the protective nets of the highway, the installation of road signs to alert drivers (at least 4 interventions in 4 different areas)	Completed
Dbase: update on the 5 years of the project of the database on road and rail accidents with ungulates and wolves	Completed
Awareness campaign: at least 1 news on the project website about habitat fragmentation (action C6.1/E1)	Completed
Awareness campaign: at least 1 post on the project social media about habitat fragmentation (action C6.1/E1)	Completed
3 Educational seminars for the presentation of the EIA handbook	<b>Annex_FR_C6.2_01</b>

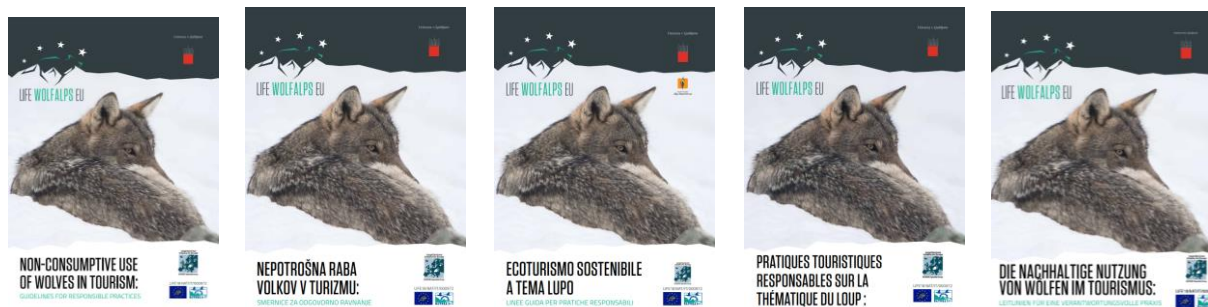
## 6.1.15 Action C7 - Economic benefits with wolf-friendly protective ecotourism packages and products

Beneficiary responsible for implementation: **APAM**

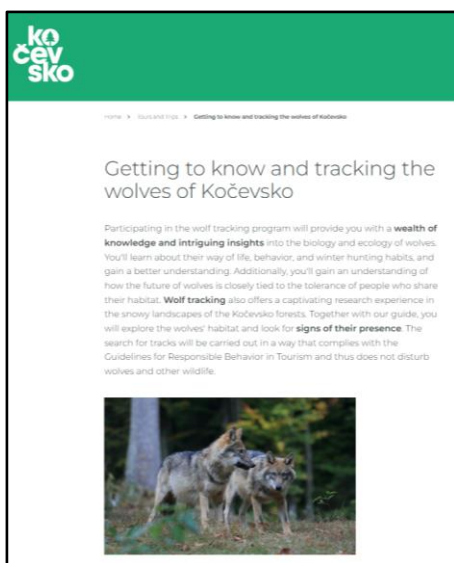
Beneficiaries involved: **APAC, APAP, METO, PNM, RELI, RELO, ERSAF, UL**

Action C7 is completed. After the delays due to the Covid pandemic, the working group was able to make up for lost time and Action C7 ended with full achievement of project objectives, some additional results, notable in number and quality, and interesting highlights. Let us discuss the action results in detail.

The **guidelines for responsible practices** titled “Non consumptive use of wolves in tourism”, a valuable tool developed with and endorsed by the LCIE to guide ecotourism activities related to wolves and already available in **English** (Deliverable, see MR1) and **Slovenian** (3/22) have also been translated into **Italian** (12/22), **French** (3/23) and **German** (8/22) to allow for more effective and widespread dissemination. The additional editions are a significant achievement because the translation of the guidelines provides a much broader, stronger, and more lasting impact of the action.



The pandemic restrictions caused the delayed marketing of the first ecotourism packages (see MR1) which missed out on a real audience response in 2021. Summer 2022 and 2023 were thus supposed to be the real launching moment for the thematic treks proposed by the project in the catalogue “Cammini di coesistenza” and by the other wolf-themed packages not included in the catalogue (e.g. trekking by METO and other



additional trekkings, see the **Action Plan**). In total **17 packages** have been marketed since the beginning of the project (8 expected, 9 additional). They are distributed among the partners as follows: METO: 2 expected and 1 additional; UL: 2 expected; APAM: 1 expected, 2 additional; APAM-PNM: 1 expected (the transboundary trekking APAM-PNM after Alex storm needed to be completely redesigned within the Italian boundaries because of the damage to many transboundary trails); RELO: 1 expected, 2 additional; ERSAF: 1 expected, 2 additional; APAC: 2 additional). For the expected packages see **Deliverable, Annex\_MR2\_C7\_01\_DEL**, for the additional packages see the following **link**. In Slovenia, the 2023 tourist packages received excellent feedback from two groups of tourists. Encouraged by this, local tourism organization (Visit Kočevsko) decided to continue offering the "wolves and coexistence" theme, developed in collaboration with the University of Ljubljana as part of the LWA EU project, to enhance the durability and impact of their tourism initiatives.

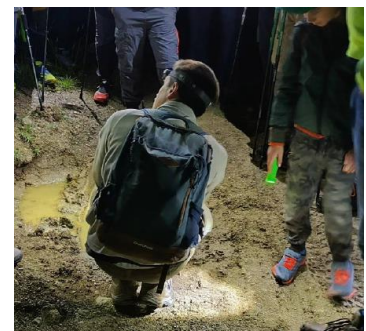
However, the packages as a whole had a lower response from the public than the expectations that were legitimate to have after the success of the LIFE WOLFALPS IT13 project treks. Only five of the seventeen marketed wolf ecotourism treks reached the minimum number of participants to start, despite the fact that in 2023 some packages were revised on the advice of the tour operator to be more in line with market

demands (shorter, cheaper and easier treks with super comfy hospitality facilities). The reason that has emerged behind this dynamic is that an immersive wolf experience is an alternative and unusual type of vacation, to which people not used nor trained to mountain treks are willing to devote at most one weekend and in full comfort conditions. That's why only five short and very unusual and super easy and comfy trekkings succeeded (three theatrical trekkings by METO and two additional treks by RELO).

To overcome the unexpected difficulties encountered by the treks, we decided to invest more effort in **winter (snow tracking) and summer (visit to pastures) one-day events**. This strategy proved to be smart. By the end of the project the partners implemented **143 events, of which 64 expected** (20 by ERSAF-RELO, 12 by APAM, 10 by METO, 8 by RELI, 8 by APAP, 6 by APAC: see [Annex\\_MR2\\_C7\\_02\\_DEL](#), [Annex\\_FR\\_C7\\_01](#)) and **79 additional** (59 by RELO and ERSAF, 2 by METO, 15 by PNM, 3 by APAP: for all ecotourism events see [folder](#)) with at least **3.264 people involved and an average of about 22 participants per event** (see [Annex\\_FR\\_C7\\_02](#)). The more than double the number of events implemented than planned, the excellent audience response and the encouraging feedback received, effectively compensated for the participation in the treks below expectations.

Indeed, wolf-based ecotourism demonstrated through the events its full potential to support large carnivore conservation by acting on various levels in conflict mitigation, i.e.:

- ensuring a dissemination of basic concepts related to wolf biology, ecology and helping to fight thanks to on the field evidence many fake news about large carnivores;
- bringing the world of hikers closer to the world of Alpine farmers, so that the former can understand in a concrete way and not with the attitude of so-called “parlor environmentalists” the concrete difficulties of coexisting with wolves;
- ensuring locally economic benefits to the more than 40 host structures involved and to the many trained nature guides who accompanied people;
- strengthening the network of protected areas (project and non-project partners), which collaborated together to organize and carry out the events.



Moreover, the ecotourism events proved to be particularly important in the areas of recent and/or in progress wolf recolonization because they represent the pioneering beginning of a local wolf-based ecotourism "tradition" as well as a very important tool for disseminating scientific knowledge and best practices.



If the events were successful, it was also largely due to the nature guides trained in the framework of the project. Training is essential to ensure long-term impact of ecotourism actions. That is why the project has made a great effort to train a large number of outdoor professionals using the guidelines for responsible wolf-friendly tourism as a basis for theoretical and on the field lessons: nature guides are the **key professionals** who can provide continuity for many ecotourism, awareness and dissemination actions even after the project has ended. In total **17 trainings** have been realised since the beginning of the project, of which 7 expected (3 by APAM, 1 by METO, 1 by RELO, 1 by UL-BF, 1 by PNM: see [Folder](#)) and 10 additional (4 by RELO, 2 by APAM, 4 by MUSE, 1 by UL: see [Folder](#)) for a total of **at least 754 professionals** involved. A truly considerable, noteworthy additional effort was carried out once again in the territory of the Lombardy Region, where wolf recolonization is in progress and where thus widespread and massive dissemination of awareness and best practices about wolves is most



urgently needed. The involvement of Parco Lombardo Valle del Ticino by RELO in this sense helped dissemination also in plain areas where recolonization is in progress. UL staff also delivered an additional lecture for the wolf program guides and helped prepare a PowerPoint presentation with objective and accurate information about wolves for guides leading the wolf programs.

Moreover Regione Lombardia realised in collaboration with Orobie Valtellinesi Park a very interesting additional dissemination and communication tool: **A four-episode podcast titled “Intrecci invisibili”** (“invisible connections”) produced by Talking Nat and conceived by Anna Sustersic, a journalist and science popularizer who through interviews with experts and professionals tells about coexistence with wild animals in all its many fascinating and/or critical aspects. Coexistence is the key word of the podcast: it’s the invisible thread which holds everything - plants, insects, mountains, deer and wolves - together in one harmonious balance.



With the savings from Action C7, **LIFE WolfAlps EU labeled uniforms** ([Annex\\_FR\\_C7\\_03](#)) were made by APAM for the Park nature guides who have been used during 2024 to carry out public information activities at Park info points and public animations related to the Young Ranger program.



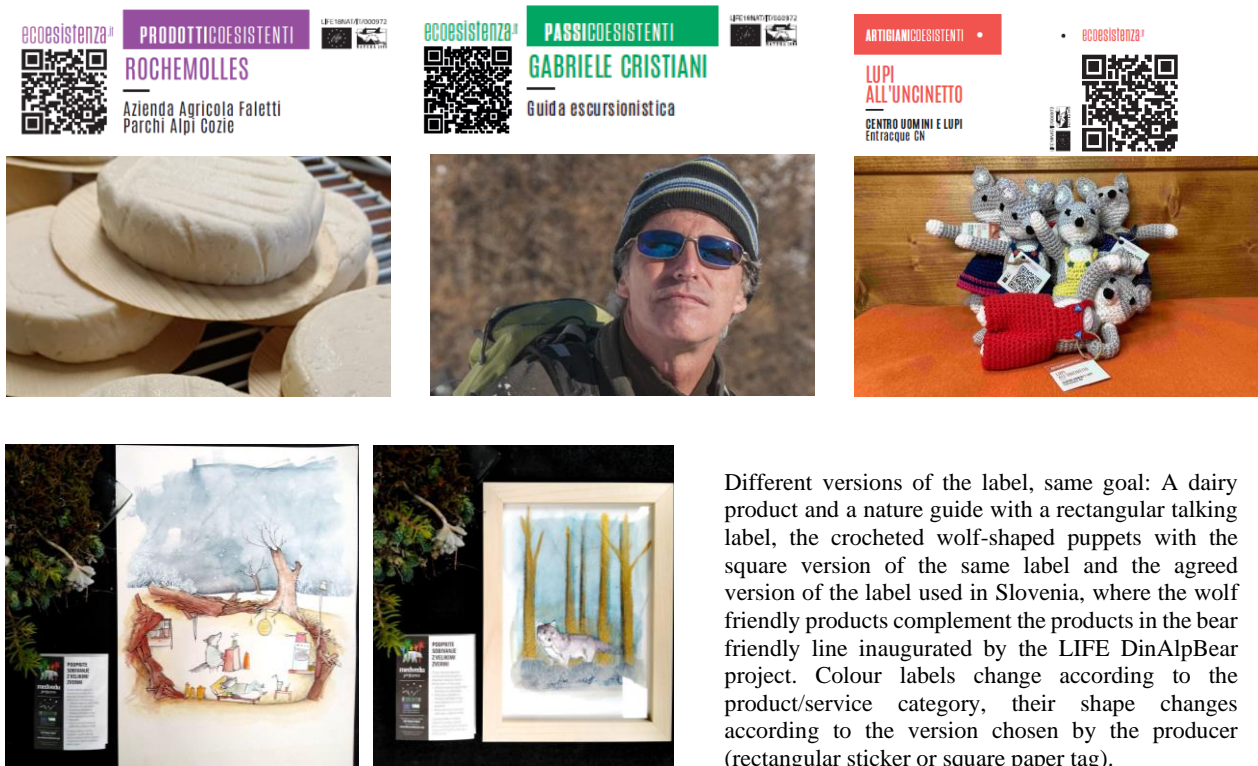
APAM has also developed an **additional dissemination and awareness ecotourism tool**, tested in its beta version during 2023 and in use throughout 2024: **a card game titled “Do the right thing in the mountains”** ([Annex\\_FR\\_C7\\_04](#)) which aims to disseminate safe and sustainable behaviours, i.e. those which have the least and best possible impact on alpine biodiversity- with a focus on coexistence with large carnivores, and management of encounters with livestock guarding dogs in alpine pastures. The tool responds to an emerging need, to educate the large audience of enthusiasts who approached the mountains during the pandemic period with huge passion but little knowledge and culture of mountain- and countryside. The

game is intended both for schools and for adult mountain goers (hikers, climbers, bikers, ...): both targets gave very positive feedback during the test phase. Each Park refuge is entitled to receive at least one kit.

An **educational visit** in Italy for French farmers to meet Italian farmers involved in eco-tourism experiences was originally planned as a project output. But a context analysis revealed that in the PNM area a preparatory work had to be done before launching any best practices exchanges. In particular, some training of tourism professionals and a further increase of public awareness were needed. So PNM shifted the small budget to realize a training of nature guides ([Annex\\_MR2\\_C7\\_05](#)) and **15 wolf themed events** led by trained nature guides in mountain refuges which had an excellent response from the public (see [Annex\\_FR\\_C7\\_05](#)).

**Coexistence friendly products** testifying to the support for conservation by producers and artisans are a **very important indirect communication tool**: they concretely show that there is a standing in favour of large carnivores even at the local level, debunking the widespread impression carried by the media that rural areas are unitedly against the presence of predators. Support for human-carnivores coexistence exists, and the products make it visible, along with the work of guiding and hospitality professionals. That’s why we decided to include nature guides and facilities as categories to the [ecoesistenza.it](#) **talking label website**. The talking label is not a brand, but a tool that aims **to bring out and make visible on an online map the network of ecotourism producers and professionals who support coexistence**. All the products tell their coexistence story thanks to the accompanying **talking label**: a label with a QR code that links to a landing page within the website [ecoesistenza.it](#) where it is told *how* products and producers support coexistence. In this way consumers can guide their choices. Details about the LWA EU project and all information on how to participate can be found directly on the website. The website includes:

- **23 wolf-friendly products**, of which 16 originally expected (5 by UL, 4 by APAM, 4 by RELI, 2 by APAC and 1 by APAC, see [Annex\\_MR2\\_C7\\_03\\_DEL](#), [Annex\\_FR\\_C7\\_06](#) and the [ecoesistenza.it](#) website) and 7 additional (1 by APAM, 2 by APAC, 2 by RELI, 2 by APAP). The products include **10 handicraft products** (wool pet pillows, wolf-shaped key chains, a crocheted Little Red Riding Hood-shaped puppet, crocheted wolf-shaped puppets, crocheted potholders by APAM and a wolf wooden comb, wolf wooden puppets, wolf paintings, a children's book about a wolf named Vilko and a brooch with the wolf's drawing by UL) and **13 dairy products** (see the [ecoesistenza.it](#) website).
  - 13 professional nature guides from northern Italy (see the [ecoesistenza.it](#) website) who disseminate correct information about the wolf and coexistence with large carnivores during their guided hikes;
- 3 rural and Alpine guest facilities (see the [ecoesistenza.it](#) website) who make correct and up-to-date information about the wolf and coexistence with large carnivores available to their clients;



Different versions of the label, same goal: A dairy product and a nature guide with a rectangular talking label, the crocheted wolf-shaped puppets with the square version of the same label and the agreed version of the label used in Slovenia, where the wolf friendly products complement the products in the bear friendly line inaugurated by the LIFE DinAlpBear project. Colour labels change according to the product/service category, their shape changes according to the version chosen by the producer (rectangular sticker or square paper tag).

A special mention is needed to **woollen pet pillows**, which are an additional output issued from the three Wool Living Labs ([Annex\\_MR1\\_C7\\_09\\_AR\\_Study about sheep wool](#)) and inspired by the additional survey realised by APAM within the project "Sheep wool: data, regulatory context, critical issues and prospects for valorisation in the Italian project area" ([Annex\\_MR1\\_C7\\_09\\_AR\\_Study about sheep wool](#)). The pet pillows were realised with the wool from four local farmers and thanks to the work of local artisans. They were sold online by ONG "Io non ho paura del lupo" which could paid at the right price the four farmers for the wool purchased for pillow production. All proceeds from the sale were donated to the Coexistence Fund, supporting the purchase and installation of depredation prevention measures. So, in September 2023 the pilot operation of wool enhancement that resulted from the Wool Living Labs came full circle.

In the frame of action C7 the Biotechnical Faculty of the University of Ljubljana renewed and updated the webpage dedicated to large carnivore friendly ecotourism in continuity with the LIFE DINALP BEAR and LIFE Lynx projects: <https://medveduprijazno.si/>. The upgraded website puts more emphasis on responsible tourism guidelines and the importance of large carnivore friendly practices.





PNDB considered that the best option to promote awareness in its area of recent recolonization by wolves was not to go through the implementation of specific products right away, but to start preparing the ground through a **specific communication product**, an institutional leaflet ([Annex\\_FR\\_C7\\_07](#)), which combines information to the public related to the protected area and the Park's already existing quality label with specific information about the wolf and the project. 35,000 copies of this tool were produced, and it is currently being distributed at visitor centers, information points, and tourist facilities participating in Phase 2 of the European Charter for Sustainable Tourism - CETS.



In Slovenia the Biotechnical faculty of the University of Ljubljana, together with the Artists for Nature Foundation (ANF) organised the **international Art Camp “Living with Wolves”** ([Deliverable, Annex\\_MR2\\_C7\\_04](#)). The workshop took place from 12. to 18. June 2022 and brought together 5 international wildlife artists from 5 Countries.

They visited various local stakeholders who showed them their perspective on coexistence with wolves. The produced artwork captures the complexity of human-wolf interactions and was exhibited in two different locations in Slovenia. The resulting artwork attracted the interest of the publisher, an illustrated bilingual book in Slovenian and English titled “Living with wolves” ([Annex\\_FR\\_C7\\_08](#)) was produced as an important additional achievement. UL organized a book launch event, participated in promotional activities, and distributed over 125 copies among project partners and local stakeholders. The book, now available for sale in

Slovenia, is expected to have a lasting impact both locally and nationally, adding significant value to the project.

		2019		2020				2021				2022				2023				2024			
		3 T	4 T	1 T	2 T	3 T	4 T	1 T	2 T	3 T	4 T	1 T	2 T	3 T	4 T	1 T	2 T	3 T	4 T	1 T	2 T	3 T	4 T
<b>Action C7</b>	Proposed																						
	Actual																						

DELIVERABLE	ACTION	EXPECTED	PROGRESS
64 ecotourism events	C7	31/07/2024	Completed <a href="#">Annex_MR2_C7_02_DEL</a> <a href="#">Annex_FR_C7_01</a> <a href="#">Annex_FR_C7_02</a>
Guidelines for responsible wolf-based ecotourism	C7	31/12/2020	Completed on delay 31/03/2022 <a href="#">Annex_MR1_C7_01</a>
8 wolf ecotourism packages are marketed (6 in Italy and 2 in Slovenia)	C7	30/04/2023	Completed <a href="#">Annex_MR2_C7_01</a>
Art Camp	C7	31/10/2022	Completed <a href="#">Annex_MR2_C7_04</a>
16 new wolf friendly products	C7	31/01/2024	Completed <a href="#">Annex_MR2_C7_03_DEL</a> <a href="#">Annex_FR_C7_06</a>

<b>MILESTONE</b>	<b>ACTION</b>	<b>EXPECTED</b>	<b>PROGRESS</b>
First ecotourism event	C7	01/07/2022	Completed 21/11/2021 <b>Annex_MR1_C7_05</b>
First training for guides and tourism operators	C7	31/01/2021	Completed 22/05/2020 <b>Annex_MR1_C7_10</b>
First wolf-friendly package marketed	C7	15/12/2020	Completed on delay 01/06/2021 <b>Annex_MR1_C7_03</b>
First Meeting of the Wool Living Lab	C7	31/12/2021	Completed 10/06/2020 <b>Annex_MR1_C7_08</b>

<b>Expected Results</b>	<b>Achieved Results and Status</b>
First wolf-friendly travel catalogue	Completed 24/03/2022 <b>Annex_MR1_C7_04</b>
3 training workshops for guides and tourism operators by APAM	Completed 10/06/2021 <b>Annex_MR1_C7_10</b>
1 training workshop for guides and tourism operators by RELO	Completed 26/07/2021 <b>Annex_MR1_C7_10</b>
1 training workshop for guides and tourism operators by METO	Completed 26/07/2021 <b>Annex_MR1_C7_10</b>

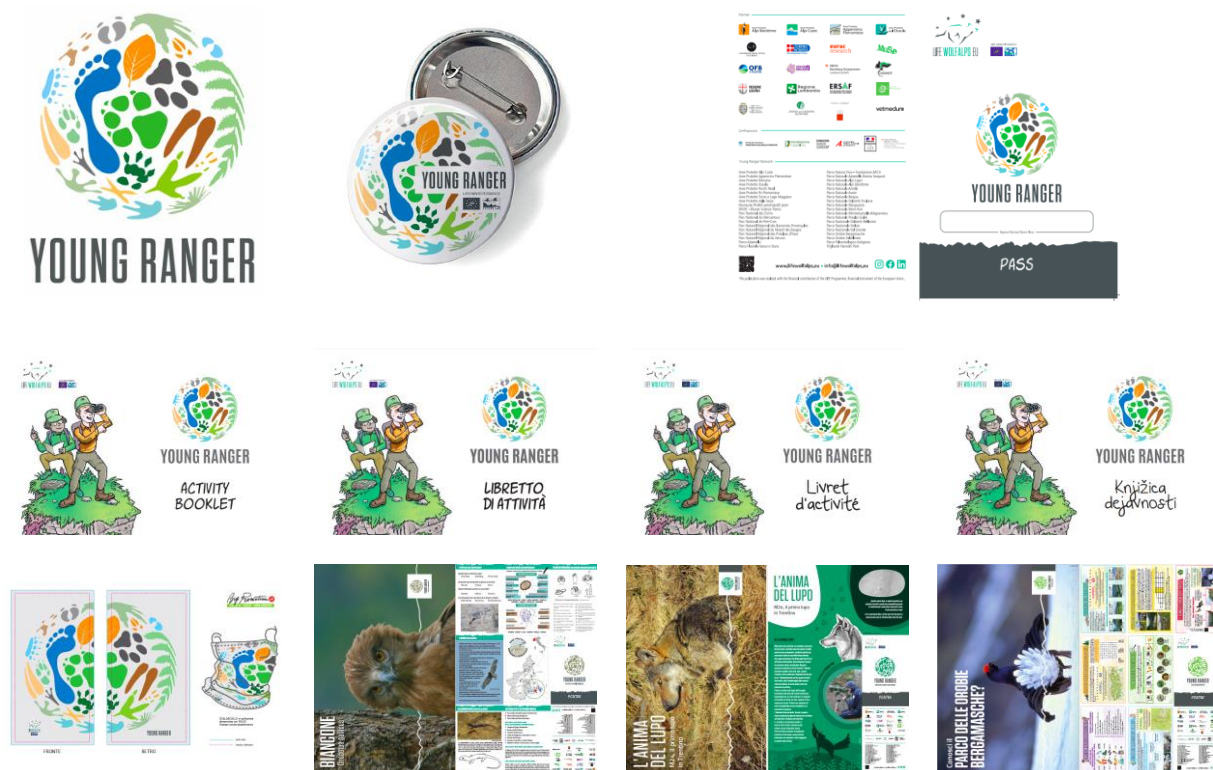
### 6.1.16 Action C8 - The first special Life Alpine Young Ranger Wolf Program: in the field implementation over the boundaries to involve new generations in wolf conservation

Beneficiary responsible for implementation: **APAM**

Beneficiaries involved: **APAC, APAP, APOS, ERSAP, MUSE, PNDB, PNM, RELI, RELO, UL**

Action C8 is completed, all the expected goals were achieved on time (see MR2) with many additional results and some relevant replications. Action C8 didn't require any preparatory action, thus started on time in January 2020 and was only marginally affected by the effects of the pandemic, because the concept and design phase could be carried on online. 2020 was devoted to many partnership online meetings necessary to: 1) define the goals, contents, target, structure and functioning of what was unanimously decided to call the **Young Ranger program** (for brevity and especially to include entities that are not located in the Alps) 2) identify the network of Parks/Museums/Wildlife facilities taking part into the program and 3) start working on the coordinated visual image and on the materials to be distributed. In 2020 the **Young Ranger Map** kicked off with 29 participants, at the end of the project it included **40 participants, 11 more than initially expected**: 36 protected areas, 1 science museum (MUSE), 1 Eco-museum, 2 wildlife areas. 29 participants are in Italy, 7 in France (coordination by PNM) and 3 in Slovenia (coordination by UL). One of the additional positive impact of this action has been that of enlarging and empowering the network of entities working on large carnivore conservation: some of them started working on the subject precisely thanks to the Young Ranger initiative, e.g. The Parco Lombardo della Valle del Ticino, who joined the programme in 2024.

2021 was then devoted to the development and printing of the YR **visual image, contents and materials**: the YR common badge (**Deliverable, Annex\_MR1\_C8\_04**), the **activity booklet** in English, Italian, French and Slovenian (**Deliverable, Annex\_MR1\_C8\_05**), the **YR pass** (**Deliverable, Annex\_MR1\_C8\_06**), the **YR headscarf** (**Deliverable, Annex\_MR1\_C8\_07**).



*An overview of the main communication materials of the Young Ranger program: the YR logo, the YR badge, the "PassPark", the booklets, the headscarf and three of the 19 additional thematic local posters about Alpine biodiversity.*



The **training of officers and nature guides** was the last important step of the long but necessary preparatory phase: one in person workshop (14.4.2022) and one online workshop (21.4.2022, see for both [Milestone, Annex\\_MR2\\_C8\\_01](#)) allowed as many people as possible to participate, sharing a common base of content, goals and good practices. An ["demo" video](#) on how to become YR was made in Italian and French at no cost.



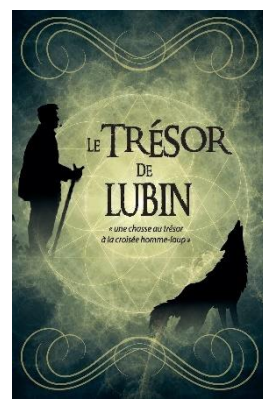
In summer 2022 YR program was finally launched with great enthusiasm by the network. We worked on two levels: the **celebration of YR Days** for young visitors of Parks, museums and wildlife areas and the **involvement of local kids**.



In France the YR Programme was launched one year later (2023) because of the process of sharing contents with local farmers, which took a long time but it ensured greater support of the stakeholders, so it was worth the wait. So, in France the first Young Rangers received their badges on the 9. July 2023 thanks to **four simultaneous events for local kids** ([Annex\\_FR\\_C8\\_01](#)) in four different villages of the Parc National du Mercantour. Animation activities continued at full capacity in 2023 and **all the expected results were already achieved and exceeded one year before the end of the project**. Nevertheless, given the great interest and success, the

Young Ranger program has been continued into 2024, achieving **an unexpected amount of additional results**. Let's see them in detail.

**12 YR celebration days** were expected by the end of the project ([Milestone, Annex\\_MR2\\_C8\\_03](#)), and the amazing number of **146 celebration days** were realised by the end of the project involving at least **2883 kids** (see [Folder, Annex\\_FR\\_C8\\_02](#) and [Annex\\_FR\\_C8\\_03](#)) On the 10.-11. July a group of Italian and French YR met at Colle della Maddalena/Col de Larche for two days of transboundary wolf-themed nature sharing and celebration. A [professional video](#) was made documenting the experience.

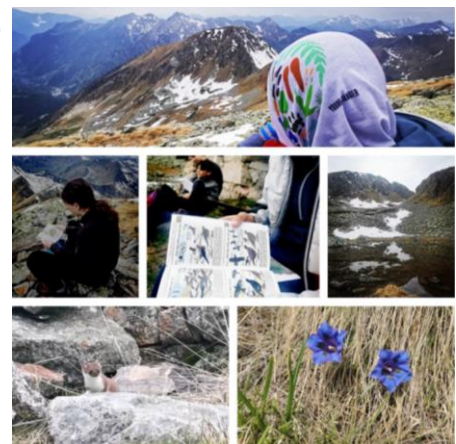


**9 events to involve local kids** were originally planned ([Milestone, Annex\\_MR2\\_C8\\_02](#)), the additional events have reached the incredible number of **154**, for total amount of **165 events dedicated to local kids implemented in school, libraries and on the field**, with at least **2579 kids involved** (see [Folder, Annex\\_FR\\_C8\\_04](#) and [Annex\\_FR\\_C8\\_05](#)). The events to engage local schools proved to be a super useful way to test the effectiveness of YR activities on the field and to involve the youngest part of the local communities. Moreover, they provided the inspiration to develop **specific activities for schools** from the

materials and content of the Young Ranger program: today the YR program is now part of APAM and PNDB's permanent environmental education offering. PNM produced and started to use in 2023 in collaboration with 1,2,3, CAT a very original additional tool to the YR program: the **coexistence-themed treasure hunt “Le trésor de Lubin”** ([Annex\\_FR\\_C8\\_06](#)). For two summers, at the four Maisons du Parc (Park Visitors centers), the kids were plunged into a world of enigmas and mysteries together with their families on days open to the public, or, on predetermined dates, even in the company of Park officers. To reach their goal, the kids had to think and cooperate while following the trail of coexistence between humans and wolves. The Lombardy Region was able to make the best use of the network of regional natural parks to implement the action by ensuring its success with over 39 additional celebration days and over 27 additional events to involve local kids. A positive side effect of the Young Ranger program has been the strengthening of the network of protected areas at the local and alpine levels, with improved circulation of information and best practices.

As an additional tool used in 2024 to enhance the YR activities for the school, APAM realised some **3d photogrammetries of wolf skulls and of the skulls of its preys** (see [link](#)), complementary to the “A wolf in a backpack kit” in Action E4 and very useful for illustrating details of delicate elements while avoiding direct manipulation.

In 2024 PNM offered to a selection of local YR **a trip to Italy** to visit the wildlife facility “Uomini e lupi” (6-7/5/2024, see [Folder](#)) and learn about human-wolf coexistence on the other side of the Alps in the Alpi Marittime Park. APAM also decided to reward the most active among local YRs, offering seventeen of them **a three-day LWA EU trek in Marguareis Park** (16-18/7/2024, see [Folder](#)), the first area recolonized by wolves around the mid-1990s. It was a great opportunity to meet farmers at work in their pastures and mountain tourism professional and learn on the ground the meaning of the word coexistence.



In all, it is estimated that over 5,000 kids have been directly reached through the program's promotional activities and that there are at least as many Young Rangers among the visitors passing through the various Parks/Museums/Wildlife centres who have participated in the project (the estimate is based on the count of materials printed and already distributed), for a total of **about 10.000 Young Rangers** before the end of the project: exactly twice as many as originally planned! The goal of this action was precisely to contribute to train a generation of informed kids to support wolf and biodiversity conservation all over the Alps: we hope that the huge effort made by the project will bear fruit.

In Slovenia the action C8 was led in collaboration with Triglav National Park and Dina Pivka center.



**11 additional special posters** (they are **now 19** from the beginning of the project: see [Folder](#)) about local biodiversity have been produced by Parco Alpi Marittime and Parco Marguareis (APAM), Aree Protette Appennino Piemontese, Parchi Alpi Cozie, Parco Orobic Bergamasche, Parco Monte Avic, Parco Nazionale Dolomiti Bellunesi, Parco Fluviale Gesso Stura, Aree Protette dell'Ossola, Parco Adamello Brenta, Parco Montemarcello-Magra, Parco Beigua, Parco dell'Aveto, Parco dell'Antola, Parco delle Alpi Liguri, Parco delle Orobic Valtellinesi, Parco regionale dell'Adamello, Parco dello Stelvio, Parc National du Mercantour. Poster-games bring out the natural values of the

Parks and the local Natura 2000 network. They were important for the functioning of the Young Ranger programme because they were the element of the "YR system" that motivated young visitors to go around the Parks/Museums/Wildlife centres to collect the different posters and stamps on the “passParks”.

With the savings from Action C8, PNDB produced a major outreach initiative aimed at young people: the **two-episode podcast titled “Il lupo ieri e oggi”** produced by Talking Nat. In the two episodes, a father and his daughter address some of the most complex issues brought into play by the return of the wolf, such as ecosystem integrity, biodiversity conservation, and safeguarding livestock activities.

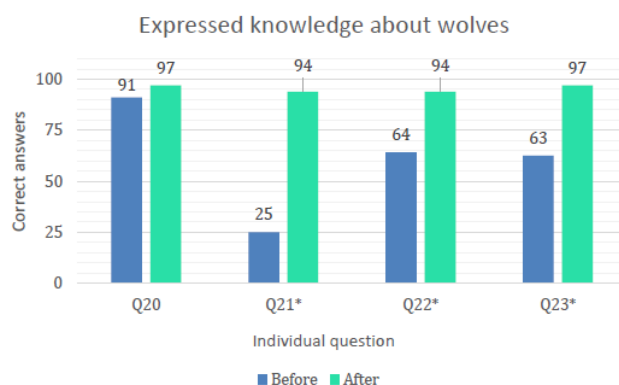




Communication, based on knowledge, objectivity, and transparency, is indispensable in the search for mediated solutions for coexistence between humans and wildlife, particularly with large carnivores such as the wolf.

At the end of the project a **survey** ([Annex\\_FR\\_C8\\_07](#)) was designed to measure any shifts in attitudes and knowledge towards wolves before and after the children's participation in the Young Ranger Program activities, specifically before and after reading the booklet. We found that among the five selected variables,

only completing the questionnaire before or after reading the booklet (Table) significantly impacted expressed knowledge and attitudes towards wolves. **The booklet had a positive impact on increasing knowledge among children participating in the Young Ranger program.** We also observed a positive influence on attitudes, although the differences before and after reading the booklet were not statistically significant. Other variables in the survey did not significantly impact expressed knowledge and attitudes.



		2019		2020				2021				2022				2023				2024			
		3 T	4 T	1 T	2 T	3 T	4 T	1 T	2 T	3 T	4 T	1 T	2 T	3 T	4 T	1 T	2 T	3 T	4 T	1 T	2 T	3 T	4 T
Action C8	Proposed																						
	Actual																						

DELIVERABLE	ACTION	EXPECTED	PROGRESS
The wolf badge (the common YR badge)	C8	31/12/2021	Completed 31/12/2021 <a href="#">Annex_MR1_C8_04</a>
The YR pass	C8	31/12/2021	Completed 31/12/2021 <a href="#">Annex_MR1_C8_06</a>
The headscarf	C8	31/12/2021	Completed 31/12/2021 <a href="#">Annex_MR1_C8_07</a>
Booklet with fun educational activities about wolf suitable for a wide different age group (ranging from 6 to 14 years old)	C8	31/12/2021	Completed 31/12/2021 in four languages <a href="#">Annex_MR1_C8_05</a>
MILESTONE	ACTION	EXPECTED	PROGRESS
First map of protected areas adhering to the YR program	C8	31/12/2020	Completed 31/12/2020 <a href="#">Annex_MR1_C8_02</a>
First training for Park officers and YR animators	C8	30/6/2022	Completed 14.04.2022 with reply 21.4.2022 <a href="#">Annex_MR2_C8_01</a>
First YR event for local kids	C8	31/12/2022	Completed (30/05/2022) <a href="#">Annex_MR2_C8_02</a>
First YR celebration day	C8	31/12/2022	Completed <a href="#">Annex_MR2_C8_03</a>

Expected Results	Achieved Results and Status
First networking and brainstorming workshop organized by APAM (online) and additional meetings to kickoff the programme	Completed 03/06/2020 <a href="#">Annex_MR1_C8_01</a>

## Monitoring of the impact of the project actions (obligatory) (Actions D)

### 6.1.17 Action D1 - Assessment of attitudes and perceptions about wolves among general public and key stakeholder groups

Beneficiary responsible for implementation: UL

- **D1.1 Ex-ante assessment of attitudes and perceptions about wolves among general public and key stakeholders groups.**

**The action is concluded, milestones and deliverables have been realized and expected results achieved.** The date of conclusion of the Deliverable has been postponed to May 30th 2022, as agreed with the Monitor at the Third Monitoring Visit. This delay did not affect any expected result or other activities. The aim of this action was **to conduct a quantitative survey of attitudes of the general public**, hunters, farmers, tourism workers, education professionals and (as additional target groups not originally foreseen by the project) environmentalists and journalists toward wolves and wolf management as well as to assess their knowledge about the species across the countries. We have implemented this action as planned, with a slight delay due to the Covid situation, since during the disease outbreak it was impossible to conduct surveys face to face. This postponement of the deadline was timely communicated to the project monitoring team and did not affect the overall implementation of the project. **We have analysed 7610 questionnaires** filled by respondents from the different target groups across all sixteen core areas. The sample sizes across the target groups were: (1) general public – 2547; (2) farmers – 2373; (3) hunters – 1075; (4) education professionals – 588; (5) tourism workers – 482; (6) environmentalists – 437; (7) journalists – 108. The last two groups, environmentalists and journalists, were not originally planned but due to their intensive presence in the field, we decided it is important and worthwhile to include these groups in the survey. This was carried out with no extra costs to the project.

**A survey instrument (questionnaire) has been developed in English (Milestone, Annex [MR1\\_D1\\_01](#)).** The questionnaire was then translated to Italian, French, German and Slovenian languages. While preparing the questionnaire we took care to develop such a questionnaire that will allow for comparisons not only among the different core areas and the target groups but also with the similar surveys carried out in the project area in the past. We have therefore selected a number of standard questions to cover following topics: general attitudes toward wolves, knowledge about wolves, fear of wolves, opinions about different management options, willingness to accept the presence of wolves nearby, willingness to accept more wolves, personal experiences with wolves and socio-demographic information about the respondents. **Lead partner (UL) has prepared detailed instructions (Annex [MR1\\_D1\\_02](#))** on how to carry out the survey in each of the core areas.

Once collected, the data was entered into a common database and analyzed at the University of Ljubljana. **Final report presenting the results and highlighting the main recommendations to be used in wolf conservation communication was prepared (Deliverable, Annex [MR1\\_D1\\_03](#))** and published on the project web site (<https://www.lifewolfalps.eu/en/download/>).

Overall, the results of our study suggest that although **overall supportive to wolf conservation, the residents of the key areas in the Alps need to be continuously reached through well planned information campaigns.** Hunters, as one of the key stakeholder groups, are mostly opposed to wolf conservation, so **in the future more effort should be directed toward education and sharing information with them as well as toward building strong partnerships with them.** Farmers, the group that is the main focus of practically all wolf conservation projects in Europe, **were mostly opposed to wolf conservation** across the countries. **Further efforts are therefore needed to better understand wolf depredation of livestock, to better protect herds and to better address the concerns of livestock breeders in the Alps.**

DELIVERABLE	ACTION	EXPECTED	PROGRESS
Report on ex-ante assessment of attitudes and perceptions about wolves	D1.1	15/12/2020	Completed 28/5/2022 <a href="#">Annex_MR1_D1_03</a>
MILESTONE	ACTION	EXPECTED	PROGRESS
Questionnaires are finalized and delivered for the ex-ante study	D1.1	30/03/2020	Completed 15/02/2021 <a href="#">Annex_MR1_D1_01</a>

Expected Results	EXPECTED	Achieved Results and Status
Definition of project core areas per country, to implement the quantitative survey	05/2020	Completed 6/2021
Project team guide for implementation of the D1 action	05/2020	Completed 01/2021 <a href="#">Annex_MR1_D1_02</a>
Qualitative social psychology methods: 3 focus group or on line-interviews in each project area to determine the main reasoning and narratives	03/2020	Completed 08/2020
Quantitative survey of public attitudes: at least 100 randomly selected representatives of general public interviewed	09/2020	Completed 12/2021
Quantitative survey of public attitudes: at least 50 representatives of each interest group per project area involved	09/2020	Completed 12/2021

- **D1.2 Ex-post assessment of attitudes and perceptions about wolves among general public and key stakeholder groups**

**The action is concluded, milestones and deliverables have been realized and expected results achieved.** The aim of this action was **to replicate a quantitative survey of attitudes of the general public**, hunters, farmers, tourism workers, education professionals and (as an additional target group not originally foreseen by the project but already surveyed in D.1.1) environmentalists and journalists (only Italy) toward wolves and wolf management as well as to assess their knowledge about the species across the participating countries.

**The survey instrument (questionnaire) has been updated in English ([Milestone, Annex\\_MR2\\_D1\\_01](#)).** We used the questionnaire previously developed in D1.1 and updated it. The questionnaire was then translated to Italian, French, German and Slovenian languages. **Lead partner (UL) has prepared new updated detailed instructions ([Annex\\_MR2\\_D1\\_02](#))** on how to carry out the survey in each of the core areas. We have analysed 5523 questionnaires filled by respondents from the different target groups across all sixteen core areas. The sample sizes across the target groups were (1) general public – 2533; (2) farmers – 585; (3) hunters – 750; (4) education professionals – 653; (5) tourism workers – 657; (6) environmentalists – 295; (7) journalists – 50. Additionally, 3885 questionnaires from the previous LIFE WolfAlps project were included in the analysis. Once collected, the data was entered into a common database and analyzed at the University of Ljubljana. Final report presenting comparison of ex-ante and ex-post assessment of knowledge and attitudes of wolves and highlighting the main recommendations to be used in wolf conservation communication was prepared ([Deliverable, Annex\\_FR\\_D1\\_01](#)).

Overall, most respondents from the general public across all countries are in favour of wolves, although regional differences and differences between the years exist. High differences in attitudes in neighbouring core areas of the same country, such as in Italy, indicate complex mechanisms behind feelings towards wolf presence and its conservation. Public sentiment in France and Italy has been largely stable over time, while support in Slovenia has decreased since 2017. Livestock breeders consistently oppose wolves, with French and Italian hunters also showing strong opposition, unlike Slovenian hunters who are more supportive. Respondents across all countries demonstrated strong knowledge of wolf biology, which previous research has shown to correlate with increased support for wolf conservation and reduced fear of wolves. This underscores the importance of educational initiatives, such as those implemented through LIFE projects, in fostering informed opinions about wildlife conservation.

DELIVERABLE	ACTION	EXPECTED	PROGRESS
Report on comparison of ex-ante and ex-post assessment of knowledge and attitudes of wolves	D1.2	05/2024	Achieved Annex_FR_D1_01 (09/2024)
MILESTONE	ACTION	EXPECTED	PROGRESS
Questionnaires are delivered for the ex-post study	D1.2	12/2023	achieved Annex_MR2_D1_01

Expected Results	EXPECTED	Achieved Results and Status
Quantitative survey of public attitudes: at least 100 randomly selected representatives of general public interviewed	03/2024	Achieved
Quantitative survey of public attitudes: at least 50 representatives of each interest group per project area involved	03/2024	Achieved

		2019		2020				2021				2022				2023				2024		
		3 T	4 T	1 T	2 T	3 T	4 T	1T	2 T	3 T	4 T	1 T	2 T	3 T	4 T	1T	2T	3T	4T	1 T	2 T	3 T
Action D1	Proposed																					
	Actual												5									

Action D1.1 ended on 28/05/2022, N. 5 indicates the month of ending.

## 6.1.18 Action D2 - Assessment of socio-economic impact of the project and ecosystem functions

Beneficiary responsible for implementation: EURAC

**The action is in progress and began in September 2019.** The monitoring strategy of the D2 Action was defined in the first year of the project. To measure the socio-economics impact of the project and ecosystem functions in the project areas, **we developed 3 different typologies of indicators: social, economic and bio-ecological, defining a total of 77 indicators** to be collected during the project ([Milestone, Annex\\_MR1\\_D2\\_01](#)). In most cases, one initial indicator was split into two or more indicators to deepen the data collection.

Each partner identified at least one person responsible to collect the data and to update a common database on a yearly basis. A standard format to collect data has been devised and provided to all the partners to ease the collection and later the analysis of results. Each partner is bound to deliver before 28 February the data for the calendar year just ended. In this regard special forms have been provided for the annual collection of indicators and multiple spreadsheets accessible in the Action Plan. The resulting data will be assembled in a single table and analyzed to permit the assessment of possible effects induced by the project. This table will be presented in the final report.

The completed list of social, economic and bio-ecological indicators and the first set of indicators collected from the partners in the 4 countries were delivered as planned in December 2020 ([Milestone, Annex\\_MR1\\_D2\\_02](#)). These indicators are measured each year of the project to analyze temporal variations of the selected variables, according to the core areas defined per Country in order to implement the assessment ([Annex\\_MR1\\_D2\\_03](#)).

The evaluation of the potential effects from the project actions will be carried out through the comparison of data collected in the ex-ante phase, before the start of the project, with those collected ex post, i.e., at the end of the project.

To set the baseline at the beginning of the project, in the first year of the project, we provided a report on the ex-ante assessment featuring the socio-economic and biological background analysis of the project areas related to the indicators defined ([Deliverable, Annex\\_MR1\\_D2\\_04](#)). This outcome was updated with the values collected in the year 2021 increasing the number of socio-economic and bio-ecological indicators to 98 ([Annex\\_MR1\\_D2\\_05](#)), but 2 indicators from the original list were deleted in 2021 as the project partners were not able to gather these data from the regional and national authorities due to privacy issues or the unwillingness of livestock farmers to share that information (i.e. “Total cost of damages reimbursed to breeders using livestock protection by public bodies” and “Economic loss/wolf attack in the project area using WPIU”).

**The systematic assessment of the agreed socioeconomic indicators has been annually performed**, and Eurac Research collected the data related to the years 2019/20, 2021 and 2022 and 2023. As for the year 2024 it was possible to collect indicator values related to the first six months of the year for finalising the final Deliverable of the Action. The “Report on socio-economic impact of the project and ecosystem functions”([Deliverable, Annex\\_FR\\_D2\\_01](#)) was provided at the end of the project and it discusses the main impacts of the Actions according to the socio-economic and environmental indicators assessed during the project timeframe (see deliverable for details).

The specific additional deliverable reporting on the “Effectiveness of mitigation measures implemented to reduce wolf damages on livestock” requested by the Appendix to Annex II of the Grant Agreement, has been produced and fully described in Action C1 ([Deliverable, Annex\\_FR\\_C1-D2\\_01](#)).

		2019		2020				2021				2022				2023				2024		
		3 T	4 T	1 T	2 T	3 T	4 T	1 T	2 T	3 T	4 T	1 T	2 T	3 T	4 T	1 T	2 T	3 T	4T	1 T	2 T	3 T
Action D2	Proposed																					
	Actual																					



<b>DELIVERABLE</b>	<b>ACTION</b>	<b>EXPECTED</b>	<b>PROGRESS</b>
Report: ex ante assessment featuring the socio-economic and biological background analysis of project areas compared to the project goals	D2	15/12/2020	Completed 12/2020 <b>Annex_MR1_D2_04</b> updated in <b>Annex_MR1_D2_05</b>
Report on the assessment of socio-economic impact of the project and ecosystem functions	D2	31/08/2024	Completed <b>Annex_FR_D2_01</b> 09/2024
Effectiveness of mitigation measures implemented to reduce wolf damages on livestock	C1-D2	31/08/2024	Completed 27/09/2024 <b>Annex_FR_C1-D2_01</b>
<b>MILESTONE</b>	<b>ACTION</b>	<b>EXPECTED</b>	<b>PROGRESS</b>
Definition of the indicators to evaluate the impact of the project on socio-economic situation	D2	15/12/2020	Completed 15/12/2020 <b>Annex_MR1_D2_01</b>
First set of indicators collected from all partners in the 4 countries	D2	15/12/2020	Completed 15/12/2020 <b>Annex_MR1_D2_02</b>

<b>EXPECTED RESULTS</b>	<b>Planned</b>	<b>Achieved Results and Status</b>
Definition of project core areas per country, to implement the assessment	12/2020	Completed 30/09/2020 <b>Annex_MR1_D2_03</b>
Partners provide EURAC annually with data on socio-economic indicators: 2021	02/2022	Completed
Annual assessments of agreed indicators by EURAC: 2021	03/2022	Completed
Partners provide EURAC annually with data on socio-economic indicators: 2022	02/2023	Completed
Annual assessments of agreed indicators by EURAC: 2022	05/2023	Completed
Partners provide EURAC annually with data on socio-economic indicators: 2023	02/2024	Completed
Annual assessments of agreed indicators by EURAC: 2023	05/2024	Completed
Partners provide EURAC annually with data on socio-economic indicators: and Annual assessments of agreed indicators by EURAC: 2024 (first semester)	09/2024	Completed

### 6.1.19 Action D3 - Evaluation of effectiveness of mitigation measures implemented to prevent traffic related wolf mortality in sink areas

Beneficiary responsible for implementation: APAC

Beneficiaries involved: APAC, METO

**The action started in September 2021 and the expected deliverable was achieved and concluded at the end of the project providing the Deliverable, Annex\_FR\_D3\_01, as planned**

The action D3 was finalised by APAC and METO, (also supported by UNITO), which have been worked synergically since the beginning of the action, by monitoring the measures of mitigation of wolf mortality implemented in the framework of Action C6.1, and assessing their ecological effectiveness.

A coordination table was established with METO, APAC, UNITO and APAM and regular internal meetings were organised to carry out joint activities and field inspections. Therefore, action D3 progressed following the implementation of Action C6.1.

Specifically, the interventions implemented in action C6 were monitored to assess the improvement of the ecological permeability in the target sites identified in Upper Susa Valley (considered as a “sink area” in the Alps due to road accident mortality) and the effectiveness of the measure aimed at decreasing wolf mortality in the area.

The measures mitigating the impacts on wolves caused by the dense network of the linear infrastructures developed along the bottom of the Upper Susa Valley (state roads 24 and 335, railway line Turin-Modane and highway A32) were addressed at specific hot-spots areas/segments identified at the beginning of Action C6.1 as described in Deliverable, Annex\_MR1\_C6.1\_01. These implemented interventions have been monitored since February 2022. As for the railway and the highway, the activities performed consisted in detecting possible use by wolves (and ungulates) of the improved underpasses, also combined with the installation of fences, via the systematic control of such potential multi-function crossing structures. Therefore, 20 photo-traps for wildlife observations were exploited and installed in interest points, both before the and after the works. Additionally, the data coming from the wolf surveillance (Action C4, e.g. snow-tracking) could also integrate useful information on the wolf's spatial behaviour. Moreover, a database on road and rail accidents involving wolves (and ungulates) used to be regularly updated by METO, and it will be permanently updated, also after the project' end.

The measures adopted to mitigate wolf mortality along the state roads were mainly addressed to change driving behaviour of drivers, via the improvement of different types of road signs and a specific local awareness campaign. Therefore these measures were assessed by surveying a specific and local questionnaire (<https://www.parchiapicozie.it/it/news/2024/03/26/life-wolfalps-eu-questionario-sulle-problematiche/>), both before and after the measures' implementation. Combined to these initiatives, the 13 km of blue reflectors along the s.s. 24 and 335 were installed by Anas S.p.A during the summer 2024, hence, this delay (non-depending on the LWAEU Project or the Beneficiaries in charge for the Action C6) prevented the evaluation of their effectiveness in the project timeframe. However, the assessment of the interventions planned/performed in the identified hot-spots of wolf mortality in Upper Susa Valley is discussed and reported in detail in Deliverable, Annex\_FR\_D3\_01, showing an overall decrease of wolf mortality and a mild improvement in ecological connectivity correspondence of the target sites of mitigation measures implemented in C6.1.

		2019		2020				2021				2022				2023				2024			
		3 T	4 T	1 T	2 T	3 T	4 T	1 T	2 T	3 T	4 T	1 T	2 T	3 T	4 T	1 T	2 T	3 T	4 T	1 T	2 T	3 T	4 T
Action D3	Proposed																						
	Actual																						

DELIVERABLE	Action	Planned	Achieved Results and Status
Report on the evaluation of the effectiveness of mitigation measures implemented to prevent traffic related to wolf mortality in sink areas	D3	30/05/2024	Completed 09/2024 <a href="#">Annex_FR_D3_01</a>

## Public awareness and dissemination of results (obligatory) (Actions E)

### Actions E: Objectives, reactions and feedback

The **ultimate goal of E actions was to favour wolf-human coexistence at the wolf alpine population level**, both where the wolf was already present and where the process of re-colonization had just started. Indeed, communication plays a major role in the management of totemic species such as the wolf, making the implementation of this action crucial as a conservation tool, able to **address Threats no. 1 and no. 5**, improving an objective, science-based knowledge about the species and about its coexistence with human activities in the Alpine area, both in rural and urban contexts. Social acceptance is crucial to achieve coexistence, so effective communication actions create the basis for the development of concrete actions.

The Communication strategy implemented in **Action E1** gave the objectives, the key messages and the guidelines to implement each communication action at an international, national level and local level. The Communication Strategy had a dynamic and adaptable structure, which allowed integrations and adjustments to face new situations. The communication actions were based on two concepts. The first was **“ecological stewardship”**, for which wolf conservation was treated as a proxy for promoting biodiversity as a value, from an environmental, social, and economic point of view. The second was the concept of **“shared interests” with public and private third parties** to multiply the impact of the project communication with a replication strategy, by establishing a direct dialogue with stakeholders. In fact, E actions include both communication and information campaigns toward the larger public, and dialogue and participation for all stakeholders. The Dissemination campaigns directly used all the data, results and information gathered in A and C Actions. Communication to the general audience was conveyed through the **website, social media and newsletters** as well as several **dissemination products**, such as brochures, posters, gadgets, videos and podcasts, **public events** (Action E1), **international conferences** (Action E6), and a dedicated **immersive exhibition** (Action E5).

Action E1 in particular has developed in an extremely fast and intense way in 2021, as Covid-19 restrictions loosened and all C actions reached their full implementation. This brought to the publication of news articles and posts on website and social media that strongly increased the interest in the project activities, thus taking the Facebook page to over 13.600 followers and the Instagram page to more than 4.400 followers. Specific information campaigns (e.g. E1/A7 urban wolves, E1/C5 hybridisation) were largely followed as they addressed new concerns and fears emerging in areas of recent re-colonization, as well as those focussed on the key areas in the Alps. For this reason, the distribution of information material on how to behave in presence of a wolf or a livestock guarding dog, how to protect domestic animals, and other specific campaigns, were warmly welcomed by local communities and beyond the project territory. In fact, the poster “I saw a wolf!” was adapted into a brochure for a more widespread distribution, and several project products were modified with local logos and contact information. Outreach initiatives need to adopt various strategies in order to match the needs and the wide variety of languages used by the different generations. Therefore, three podcasts have been released and will remain available online for future use, providing an opportunity to enlarge the LWA EU project audience and strengthen the awareness campaign. This gives the idea of the need that public institutions and local communities have to raise awareness and improve the knowledge of large carnivores. Indeed, specific communication campaigns (E1/C1, E1/C3, E1/C4 and E1/C6) together with the **thematic platform and the meetings with key stakeholders** (livestock breeders, hunters and environmental associations) through **Action E3** were crucial in this regard. More than 3.000 people were involved in such initiatives, people coming from different backgrounds and experiences interested in sharing their points of view and in finding solutions to the issues that arise from the wolf’s comeback.

Through Action E1 a **network among different projects** linked to wolf conservation and related topics was developed with the aim of exchanging knowledge and experiences, transferring and replicating best practices and establishing shared platforms for data management on an international level.

The **Alpine press review** collected articles on the wolf and on the project in order to acquire an overview on the main issues addressed in the general communication and to individuate and debunk fake news (**Action E2**). Moreover, Action E2, with the Stewardship office, worked to **build and maintain an Alpine network** made of stewards, i.e. key stakeholders and public interested in and by the presence of the wolf

(e.g. hikers, cultural or artisan associations, nature Parks, teachers, nature guides, tour operators, publishers) that interacted actively with the project, thus enhancing engagement, multiplying the impact of the project by entrusting the dissemination of some contents and products directly to third parties interested in doing so. This action gave extremely satisfactory results, with **proactive stewards busy in planning activities thus multiplying the impact of the project**, through **replications, dissemination of best practice and original activities not initially planned by the project**. The added value of stewards is that ideas are developed with a **bottom-up process**: stakeholders that interact with project staff propose actions they would like to carry out in the framework of the stewardship agreement.

With **Action E4** teachers and students were addressed through a large quantity of proposed activities for the different school levels, as they represent a very receptive and strategic audience through the acquisition and transfer of knowledge beyond their institution. This action quickly caught up with the delay due to the pandemic and was concluded with remarkable results, thanks to the **great interest that students and teachers showed** towards the wolf and its environment. Since the beginning of the project, a total of 9.148 students from nursery to secondary school have been reached across the project territory, including 551 from additional activities, and 916 university students. All proposed initiatives have been welcomed by teachers and students, in several situations exceeding expectations.

The **immersive exhibition** “[Through the eyes of the wolf](#)” (**Action E5**), lets viewers experience coexistence from the point of view of a dispersing young wolf moving into an anthropized territory. Thanks to the video and sound design, the viewer can empathise with the wolf and understand that even for wolves it is neither easy nor obvious to coexist with humans. It was hosted in three different locations (Trento, Cuneo and Milan) and was visited by a total of about 50K people and received extremely positive feedback both for the type of proposed experience and for the messages and information conveyed.

Finally, dissemination of concrete actions as well as of most updated scientific knowledge of wolves is achieved through **thematic conferences (Action E6)**. The first conference was broadcasted on Zoom, reaching about 650 people, while the following five planned conferences were held in presence with the possibility of remote connection, reaching a total of 5.202 people across Europe and beyond.

## 6.1.20 E1 - Dissemination planning and execution

Beneficiary responsible for implementation: **MUSE**

Beneficiaries involved: **all Partners**

**Action E1 is completed. It began in January 2020 and its development was in line with the project implementation plan.**

**The project Communication was fully implemented**, thanks to two main factors: firstly, the growing synergy among partners that are able to provide content as all concrete actions have started, and secondly the intense work that made it possible to catch up with the pandemic. The first Communication group plenary meeting was organised during the kick-off meeting (**Milestone, Annex\_MR1\_A1\_06**), and after that the group has met online at least once a year (**Annex\_MR1\_E1\_01, Annex\_MR2\_E1\_01, Annex\_FR\_E1\_01**).

A **proxy analysis** among the members of the communication group (**Deliverable, Annex\_MR1\_E1\_02**) was conducted in order to define a shared **International communication strategy (Deliverable, Annex\_MR1\_E1\_03)**, a document for internal use that represents the project communication “big picture”: it takes into account the different national communication systems to find out which LWA EU contents and tools can contribute (and how) to improve wolf communication and to support wolf-human coexistence within the different Alpine Countries. The communication strategy, if needed, can be adapted at a National and local level: **Italy developed a national strategy (Deliverable, Annex\_MR1\_E1\_04)**, and a local one for **Piemonte (Deliverable, Annex\_MR1\_E1\_05)**. It provides contents and methods common to all partners and was based on two staple concepts: the “ecological stewardship”, and the “shared interests” or “ownership” with public and/or private third parties. As the Communication strategy is based on a bottom-up process, an **engagement strategy** was prepared (**Deliverable, Annex\_MR1\_E1\_06**), based on the principle of maximum inclusiveness to create a correct and effective engagement of the main stakeholders (farmers, hunters, environmentalists, and others). The communication strategy also includes the establishment of a **Crisis Unit (Deliverable, Annex\_MR1\_E1\_03)** which is intended to rapidly react to emergency situations to quickly develop coordinated and effective responses.

The dissemination strategy was aimed at improving knowledge about wolves and dialoguing with stakeholders, in order to promote coexistence between humans and wolves, and the conservation of the species. In order to make the project brand a point of reference for the correct information on the wolf in the alpine context, a **visual identity and brand manual** were developed (**Deliverable, Annex\_MR1\_E1\_07**). The **project brochure (Deliverable, Annex\_MR1\_E1\_08)** (printed n. 34.650) and **poster (Deliverable, Annex\_MR1\_E1\_09)** (printed n. 14400) have been produced in each project language (5 languages), as well as the **project roll-up (Deliverable, Annex\_MR1\_E1\_10)** (printed n. 31). The **LIFE board** (printed n. 20) was produced with multi-language contents (**Deliverable, Annex\_MR1\_E1\_11**). As reported in MR1 and MR2 gadgets have been designed and produced by all project partners (and re-printed in some cases) also when not foreseen (e. g. EURAC, as reported in MR2) in order to improve the visibility of the project: **stickers (first project gadget)** (printed n. 21.300), project t-shirts (printed n. 1.500), shoppers (printed n. 450), hats, vests (printed n. 345), headscarves (printed n. 900), fleece jackets (printed n. 200), aluminium cups (printed n. 200), pencil (printed n. 1.500), USB pen (printed n. 150) (**Milestone & Expected Results, Annex\_MR1\_E1\_12**). A specific line was created for stewards, and extra gadgets were designed and made available to all project partners for production, as reported in MR1 and MR2: a pen (produced n. 250), a notebook (printed n. 200) and a multitool card (produced n. 100) useful for fieldwork activities.

The **project website (Deliverable, <https://www.lifewolfalps.eu/>)** was developed to be the showcase of the project and **went live in summer 2020** as expected (**Milestone**). As fully described in MR1, it is a multi-language platform, containing a link to the past project LIFE WolfAlps (2013-2018), a Download section, and dedicated pages to the project Team, Stakeholders, Stewards, Young Rangers, and a rich amount of static information, such as a FAQ page. The News section was constantly updated with all the relevant advancements of the project. A total of 873 **news** (724 already reported in MR2) articles have been published (185 in English, 169 in French, 151 in German, 290 in Italian and 87 in Slovenian). The Google analytics of the website is updated and discussed in paragraph 6.3.3 (for MR1 see **Annex\_MR1\_E1\_21**).



The **Facebook page** went live in 2020 (**Milestone**, <https://www.facebook.com/lifewolfalps.eu>), and since then it reported all relevant events related to the project, shared the news published on the website and promoted activities carried out in collaboration with the stewards. A total of 794 posts have been published (618 already reported in MR2). From 9.000 followers in January 2020, the number has increased to 13.697 at the end of September 2024. Also, the **Instagram account** (@life\_wolfalps\_eu), with 566 posts (414 already reported in MR2), had an increase from 1.500 followers in March 2022 to 4.432 at the end of September 2024, and the **LinkedIn account** (LIFE WOLFALPS EU) increased from 378 followers in March 2022 to 828 in September 2024. The **YouTube channel** with already 1.280 subscribers reached 139.199 users; **project videos** had 38.996 visualisations. A total of 223 **public events** of which 15 online or hybrids (171 already reported in MR2) dedicated to the general public have taken place exceeding the expected result of 50 events (**Annex\_MR1\_E1\_13**, **updated Annex\_MR2\_E1\_02**, **Annex\_FR\_E1\_02**) mainly in Italy and Slovenia, reaching 18.194 attendees and 39.744 visualisations, with a total of 57.938 people reached (in MR2 the number reported was 132.092, but it was due to a typo: the actual number, as reported in Annex\_MR2\_E1\_02 was 13.932). **15 newsletters** have been sent (**Deliverable**, **Annex\_FR\_E1\_03** reaching 6.148 subscribers, of which 3.459 new subscriptions after the previous LIFE Wolfalps (2013-2018).



As foreseen by the communication strategy, the **dissemination campaigns were tailored to each of the concrete actions**, to promote public awareness. An **informative animated video** covering all the main actions of the project (C1, C2, C3, C4, C5, C7, C8, E2.1 and E3) was produced. The 2-D animation is composed of 8 short clips (max 1' each), that combined, form the general project video. In January 2022 APAM completed the public procurement procedure and assigned CommunicAnimation S.r.l. the realisation of the video. From 15/11/2022 the animated videos were released (**Milestone**), one each week on the project's social media, and since then they have been presented in conferences and on social media to present different topics.

The **awareness campaign for preventive actions and dissemination of WPIU activities (Action C1)** was implemented following the development of the action. The International WPIU operating strategy (see **Deliverable**, **Annex\_MR1\_A2\_08**) defined a communication protocol that has been useful to set the information flow from the local WPIU responsible to the communication responsible, thus addressing threat n. 3. A **press release** was published to launch the formation of the WPIUs across the Alps at the end of the training session in April 2021. A total of 49 articles (39 already reported in MR2) and 86 posts (67 already reported in MR2) have been published on WPIU activities in all project countries. A **brochure** on prevention measures and compensation tools was produced by RAVA (**Annex\_MR1\_E1\_14**), and additional information products, that can be considered a best practice, were published by PNDB, OFB, and an information page dedicated to Italian municipalities in Piedmont on Rural Development Programmes and LIFE WolfAlps EU opportunities was produced (**Annex\_MR1\_E1\_15**). This document marked a success: thanks to this communication product the Piemonte Region decided to change the compensation system and supported prevention methods for 2021. With the growing presence of the WPIUs across the project territory it was decided to produce an **infographic poster** for all partners with simple and eye-catching drawings on what is a WPIU (function and distribution), what to do in case of a canid attack, how to request assistance and preventive measures. APAM has developed the graphics with a designer studio and realised 9 personalised versions (4 Italian regional versions, 4 Piedmont partner/supporter versions, 1 Austrian version), **Annex\_MR2\_E1\_03**. The posters were sent via email, printed (10.300 copies) and distributed to municipalities and other public offices (CC, ASL, schools, park visitor centres...).



LIFE WolfAlps EU - Per convivere con il lupo, Ep 1 - Parco Nazionale Dolomiti Bellunesi

A multi-language **information panel on the correct behaviour in presence of LGD** has been produced by APAM and distributed to local breeders as considered a best practice due to the positive feedback from the previous LIFE WolfAlps project. The panel was also personalised by Parco Regionale dell'Adamello and used locally, as described in action C1. MUSE and APAM printed in total 8.500 A5 copies on cardboard to distribute to the public. Since 2022 several public events were organised to increase awareness about the presence of livestock guarding dogs in alpine touristic areas in Regione Valle d'Aosta, Italy ([Annex\\_MR2\\_E1\\_02](#), [Annex\\_FR\\_E1\\_02](#))

In addition to the [dedicated clip](#) produced for the animated project videos, OFB released a [video clip on the WPIU's activities in France](#) and [SFS produced one](#) on the high electric fences used in Slovenia (see video frame above). [PNDB produced a series of 5 videoclips](#) (see video frame below) and a [short documentary](#) “Il lupo è tornato” describing the activities carried out in the area during the project, including damage prevention.

The **awareness campaign for anti-poaching and the dissemination of anti-poison dog units (Action C2)** was implemented. The communication strategy has been defined to raise awareness in the general public, also improving their knowledge on this critical issue, and to address the key factors that are of utmost importance to tackling illegal killing, with particular reference to the use of poison (Threat 2). The campaign in fact has been planned since the beginning to raise awareness in the general public, and to inform and involve the ASL, public and private veterinary clinics (workshops), and raising awareness on legal obligation to report suspect cases. A total of 60 posts (41 already reported in MR2) on social media, 21 news articles (16 already reported in MR2) on the project website on APDU formation, training and field operations. **15 videos** (12 already reported in MR2) on LWA EU APDUs and newly formed APDUs were filmed and uploaded on the project YouTube channel and social media for dissemination activities. APAM assigned to a designer studio the development of an **infographic poster** on anti-poaching, with particular reference to poisoned baits, with the presentation of APDUs (function and distribution), and indications on how to report suspected poaching activity and baits. Posters with the same basic structure were produced for 3 Italian Regions (contact information vary among Regions), [Annex\\_MR2\\_E1\\_04](#), plus a replica was made by the Comando Carabinieri Forestali della Toscana. Moreover, APAM assigned to a designer studio the restyling and update of the LIFE WolfAlps **brochure** “Avvelenamento, un crimine odioso” ([Annex\\_MR2\\_E1\\_05](#)). A total of 11.200 posters and 15.600 brochures have been printed and distributed (also by email) to municipalities and other public offices (CC, ASL, schools, park visitor centres...). In addition, RELO produced a digital leaflet on what to do in case of findings of poisoned baits and poisoned carcasses that was made available to provincial police and CUFA.



[One dedicated clip](#) in the animated project videos was produced and promoted on the project social media as described above. Public awareness initiatives were also held by the APDUs in occasion of events dedicated to the general public.

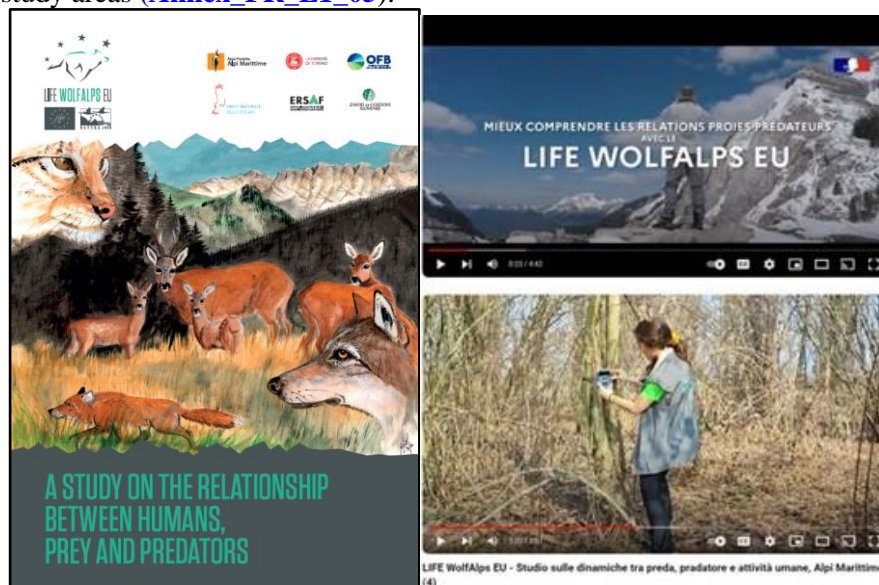
VUW made available in German the **manual on wildlife forensics** “Principles, techniques, methods and practical recommendations to combat the illegal killing of wild animals” ([Annex\\_FR\\_E1\\_04](#), published



on the project's social media) in order to give a complete and precise overview on the poaching problem to police officers and veterinarians.

The **awareness campaign dedicated to the involvement of hunters (Actions A4 and C3)** and the **dissemination of the findings beyond the evaluation areas followed** the development of the action. 35 news articles (29 already reported in MR2, "39" in MR2 was a typo) and 32 posts (23 already reported in MR1) on social media were published. SFS is implementing communication through mailing-lists and mobile applications with hunters from six hunting clubs and SFS foresters in order to keep all the members informed. [One dedicated clip](#) in the animated project videos was produced and released in November 2022, as described above. In addition, in order to give more emphasis to the cooperation developed throughout the study, and to create a communication product with higher effectiveness beyond the evaluation areas, it has been decided, as reported in MR2, to produce **video clips on the study in APAM's territory**. These clips presented the study through a storytelling of the whole action, from the hunters' activities to the collaboration with experts, to the planning of the action with all parties involved, to the perception of the disturbance caused to wildlife by our activities with interviews to a local refuge manager, a nature guide, a breeder and a hunter, and the main results. [Seven video clips were released on the project YouTube channel and on social media](#). Two more videos were produced to illustrate the fieldwork during staff meetings. [OFB produced a video](#) on the research conducted in the Réserve nationale de chasse et de faune sauvage des Bauges in collaboration with hunters, that was also published on the [OFB YouTube channel](#).

In addition to the technical meetings with the hunters of the local association, the LWA EU Action C3/E3.2 experts were invited to participate in public events, such as the one in Pianfei (CN) in 2023. As planned a **booklet dedicated to hunters** was produced in collaboration with the Action C3 experts, including illustrations prepared by one of the local Valle Pesio hunters and published on the [project website](#) also in [Italian](#). The booklet presents the objectives and main results of the research conducted in the Italian, French and Slovenian study areas ([Annex\\_FR\\_E1\\_05](#)).



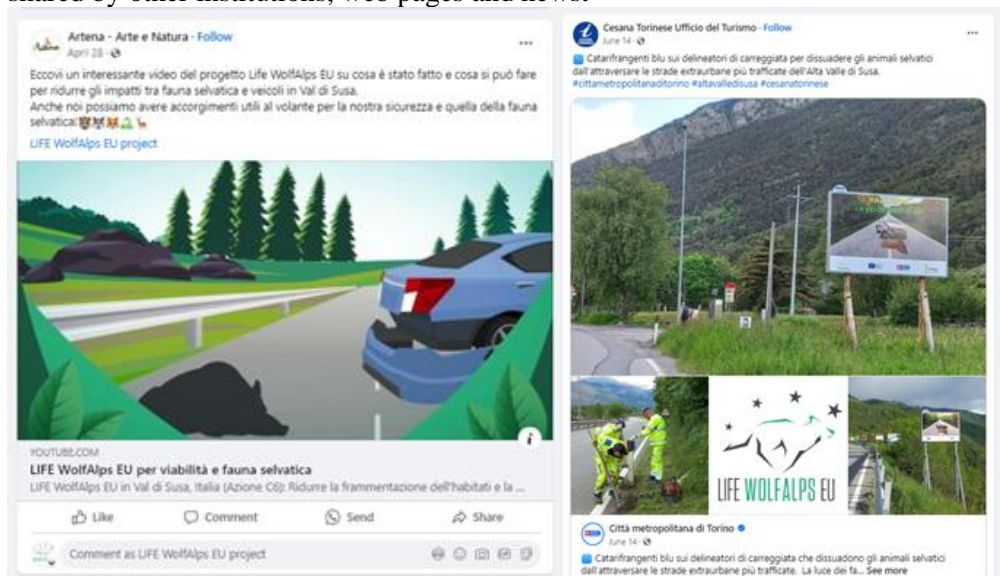
*Cover page of the booklet for hunters and frames from the videos produced by OFB and APAM.*

The **awareness campaign for the alpine wolf population (Action A5/C4)** was implemented, in connection with the development of the concrete action. 33 news articles (28 already reported in MR2) and 38 related posts (26 already reported in MR2) on social media were published. In Italy, a PDF **guideline for GAIA Observer**, an app specifically designed for collecting data on the field in the frame of the coordinated wolf monitoring, was realised ([Annex\\_MR1\\_E1\\_16](#)). This is a useful manual for monitoring operators, belonging to the Wolf Network of trained field technicians (including professionals and volunteer staff). One [dedicated clip](#) in the animated project videos was produced and released in November 2022, as described above, and on the FAQ section of the website, about monitoring methods has been implemented.

The **awareness campaign for wolf dog hybridization (Action A6/C5)** was implemented, in connection with the development of the concrete action. So far, 13 news articles (11 already reported in MR2) and 25 posts (20 already reported in MR2) were published, as well as a dedicated FAQ section on the project

website. A **serialised column** (#ibriPOST, 4 in total) was posted on social media to explain specific aspects of anthropogenic hybridization (conservation problem, survey methods, management). The posts have been gathered on a dedicated news [page](#) on the website. [One dedicated clip](#) in the animated project videos was produced and released in November 2022, as described above. APAM has assigned to a designer studio the production of a dedicated **brochure** “L’ibridazione tra lupo e cane” ([Annex\\_MR2\\_E1\\_06](#)) also [translated in German](#). A total of 15.500 brochures have been printed and distributed (also by email) to municipalities and other public offices (CC, ASL, schools, park visitor centres...).

The **awareness campaign for accident prevention (Action C6)** was implemented. In connection with the concrete actions and the development of the interventions, 12 news and 12 related posts (6 already reported in MR2) on the main achievements have been published. The posts regarding the interventions on the road system and the App S.P.I.A. were also shared by several other social media accounts (partners, municipalities, local associations etc.). Three news on wolf mortality by METO, RELO and SFS were published in order to increase awareness on habitat fragmentation and animal vehicle collision. To amplify the effect of the information campaign, **public meetings** were organised on the topic (see [Deliverable, Annex\\_FR\\_D3\\_01](#)) to illustrate the results of inspections and the analyses of the main critical issues in the area, as described in MR2. A **brochure** and a **poster** were designed, printed (150 copies each by METO using internal funds, 1500 copies of the brochure by APAC) and distributed also via email, [Annex\\_MR2\\_E1\\_07](#). An additional flyer dedicated to the **App S.P.I.A.** was printed in 540 copies by METO with internal funds. METO assigned to the agency CommunicAnimation the production of an **animated video clip** in [Italian](#) and [English](#) and released in March 2024 and promoted on the project social media and shared by other institutions, web pages and news.



The **awareness campaign for urban and bold wolves** was implemented in connection with **Action A7.5** news and 7 posts have been published concerning project actions and products but also to events and news related to urban and bold wolves. A **citizens science laboratory** took place as part of the Event “2021 The European night of researchers” organised by Turin University ([Annex\\_MR1\\_E1\\_17](#)). Interactive tables and an escape room were used to enhance public engagement. Due to the presence of urban wolves in Arvier, a village in Valle d’Aosta Region, a **leaflet** ([Annex\\_MR1\\_E1\\_18](#)) was created to inform residents about the correct behaviour to prevent habituation. The leaflet was translated into English and made available on the project website. MUSE has assigned to a designer studio the development of an **infographic poster “I saw a wolf”** ([Annex\\_MR2\\_E1\\_08](#)) on how to behave with wolves in urban areas, that was **translated in 4 languages** (English, Italian, German and French). A web and a social adaptation of the poster were realised. A total of 17.300 posters in Italian and 4.500 in English were printed and distributed (also by email) to municipalities and other public offices (CC, ASL, schools, park visitor



centres...), and 100 panels were placed across the Alpi Cozie Park territory by APAC. The poster was also used outside the project area: the Italian Alpine Club of Bologna requested the permission to print and distribute the posters during public events, Monte San Bartolo preserve in Marche Region (central Italy) also printed and distributed the poster, as well as Gambugliano, a small town in Veneto. In the frame of LIFE WILD WOLF project, Maiella National Park adapted the graphic and used it in the municipalities within the Park area. **The poster was adapted into a four-panel brochure**, available in Italian and English ([Annex\\_FR\\_E1\\_06](#)). A total of 17.500 brochures in Italian and 500 in English have been printed and distributed.

In order to increase the awareness of the main local stakeholders, local inhabitants, and tourists in South Tyrol, EURAC shifted a small amount of budget to Action E1 to promote a targeted **additional communication campaign using the "I saw a wolf" poster basis** producing useful and high-visibility multilingual marketing materials and publications. The poster has been redesigned to be **displayed in DE, IT, EN**, during the **summer 2023** (end of June mid-August - 6 weeks) on over **30 bus shelters** in the most sensitive areas of the province, in places of greater visibility for the local population, local operators, and tourists. Moreover, a short **video clip** has been produced using the poster graphics linked to the QR code that appears on the poster. The video was uploaded to [a dedicated page of the EURAC website](#). This page collected over 1.500 page visits, of which **1196 unique visitors** (about 700 in English and almost 350 in German, and 1.200 direct links, the 94,6% generated by mobile - direct link associated with posters. See statistics below). To maximize the campaign impact, at the same time, a complementary **digital campaign** on the main outdoor activity websites in the province and in the main regional german-speaking news website has been carried-out. The clip was also uploaded - and it is still present on - the main local media "STOL.IT" where it was highlighted on the homepage for 4 consecutive days. The accompanying web campaign was implemented from 20.06.2023 to 13.08.2023 performing in this period a total of **818.404 impressions** and generating **878 real clicks** to the video page.



In order to increase the knowledge on the wolf and reduce the circulation of the most common misconceptions on the species, an additional brochure, "**Il lupo... a piccole impronte**", was produced by APAM adapting the texts and illustrations of the panels created for the very successful section of the immersive exhibition presented in Cuneo, "L'angolo delle Curiosità". The brochure was made available to all partners, and EURAC adapted it by adding its logo and translating it into German ([Annex\\_FR\\_E1\\_07](#)). Over 5000 copies were printed and distributed.

Moreover, RELO designed and printed (n. 7000 copies) a handy **manual to recognise the tracks of the main carnivore species** present in the region ([Annex\\_FR\\_E1\\_08](#)).

As innovative communication products, **podcasts** have been produced and promoted within the framework of the project. These digital tools are increasingly popular worldwide and are able to reach a larger audience. As described in Actions C7, C8 and E5, three podcasts have been produced and will remain available online after the project closure: "Sei il lupo" within Action E5 dedicated to teenagers and young adults, "Intrecci invisibili" within Action C7 is an audio documentary for the general public, and "Il Lupo: Ieri e oggi" aimed at younger generations and reflects on the importance of biodiversity.

The **awareness campaign dedicated to wolf-friendly ecotourism packages and products** (Action C7) was developed according to the progress of the action. The **guidelines for responsible ecotourism** developed in the frame of Action C7 have been disseminated as expected ([Annex\\_MR1\\_C7\\_01](#)). The



different initiatives have been promoted through LWA EU social channels, by all partners involved as described in MR2. A **brochure** ([Annex\\_MR1\\_E1\\_19](#)) dedicated to the catalog was developed by Viaggi e Miraggi in view of promotional events as mentioned in MR2. A total of **61 posts on social media** (51 already reported in MR2) and **26 news** were published to promote the initiatives (22 reported in MR2). **One dedicated clip** in the animated project videos was produced and released in November 2022, as described above.

The **awareness campaign dedicated to the launch of the Young Ranger program (Action C8)** officially started with the first engagement initiatives in summer 2022. Since the launch of the program with a "teaser" press release regarding the YR logo, a total of 21 posts and 12 news articles have been published to promote the events and narrate the different experiences across the network. All the YR materials are being uploaded to the YR section of the 'Download' page, together with the Activity booklet ([Annex\\_MR1\\_C8\\_05](#)) and the YR pass ([Annex\\_MR1\\_C8\\_06](#)). **One dedicated clip** in the animated project videos was produced and released in November 2022, as described above.

**Networking activities with LIFE and non-LIFE projects** have been implemented. The first previewed networking activities started in 2020 with LIFE Lynx for the transfer of best practices and training of Police (HAS) and Slovenian Police (Action A3) ([Milestone, Annex\\_MR1\\_E1\\_20](#)). Several additional exchange initiatives were carried out as described in MR1 and MR2 with LIFE Lynx, LIFE LynxConnect project in Spain, BalkanDetox LIFE, LIFE M.I.R.C.O. LUPO, LIFE MeadowBirds, LIFE EUOKITE, LIFE SafeCrossing, LIFE BOREALWOLF and LIFE+ SATEC (the last two in particular thanks to the connection with CUFA regarding wildlife crimes).

A **Memorandum of Understanding was signed with LIFE Varna Paša** in March 2024 for communication and cooperation initiatives to reduce conflict between large carnivores and humans in Slovenia. The same issues underpin the **MoU signed with LIFEstockProtect project** with which the interactions continued in the years, reaching **a total of 6 MoUs signed** since the beginning of the LWA EU project ([Annex\\_FR\\_E1\\_09](#)). After the exchange at the "Transnational exchange platform for the management of large carnivores in the Dinaric-Balkan-Pindos region" in Skopje in March 2023 by UNITO reported in MR2, in November 2023 LWA EU participated with a poster presentation to a networking event organised by the LIFE living Natura 2000 project, an interesting occasion to share communication strategies ([Annex\\_FR\\_E1\\_10](#)).

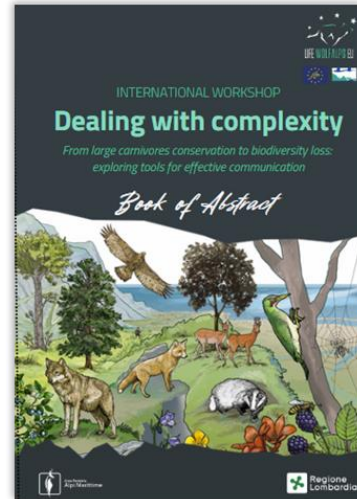
Collaboration with the LIFE WILD WOLF project continued in the years through the sharing of information and documents on problematic situations, participation in common events and overlapping project actions.

In addition UNITO and MUSE participated in the international conference "Wolves across borders" in Stockholm (May 2023) to present the LIFE WolfAlps EU project and establish networking on an international level ([Annex\\_MR2\\_E1\\_10](#)).

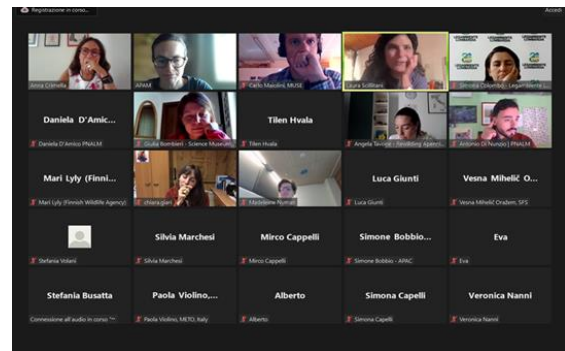
In addition to what was reported in MR2, **networking with non-LIFE projects was carried out by APAM and VUW in occasion of the Danilo Re gathering in Austria in January 2024 with all Alpine Parks**, and by **SFS with the first joint conference of the Alpine and Carpathian convention on large carnivore management**, involving Alpine convention members, Carpathian convention members, LECA project, steward DINA Pivka, and a LGD and livestock breeder ([Annex\\_FR\\_E1\\_10](#)).

The **cooperation with PASTURS project**, run by the LWA EU supporter Eliante Onlus, continued also in 2024 (Parco Naturale Mont Avic), as well as with the **SheepShield Project in Lombardy** as reported in MR2 and described in Action C1. All these initiatives were shared on LWA EU social media.

In addition to the first Networking Workshop entitled "Responsible wolf ecotourism and junior citizen programmes for nature conservation" organised by APAM and MUSE in 2023, described in MR2 ([Annex\\_MR2\\_E1\\_09](#)), the last two workshops were organised in 2024. RELO and APAM organised on 12 May at Palazzo Lombardia, Milan, the **second international Networking Workshop entitled "Dealing with complexity - From large carnivores conservation to biodiversity loss: exploring tools for effective communication"** aimed at enhancing our collective understanding and communication strategies regarding large carnivores. The morning session of the workshop was dedicated to different communication strategies that can be applied to a large variety of environmental issues, while the afternoon session involved all in attendance participants in a "world caffè" setting. At the morning session 58 people participated, 298 on-line (92 followed the original streaming, 84 followed the English streaming and 122 followed the workshop in Italian). A [book of abstracts](#) was produced ([Annex\\_FR\\_E1\\_11](#)).



On 10 September took place the **last Networking Workshop** (only online) entitled “**Public engagement for human-wildlife coexistence**”, an opportunity to exchange experiences developed within European and non-European projects and, most importantly, to reflect on the lessons learned with a view toward future development. Six speakers from different projects and a total of 40 people took part in the workshop (projects, public institutions, associations, NGOs, the general public etc). A dedicated page with a summary of the topics covered and the registration was published ([Annex\\_FR\\_E1\\_12](#)).



		2019		2020				2021				2022				2023				2024			
		3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Action E1	Proposed																						
	Actual																						

<b>DELIVERABLE</b>	<b>ACTION</b>	<b>EXPECTED</b>	<b>PROGRESS</b>
Wolf Alpine Communication Group Crisis Unit Protocol	E1	31/03/2020	Completed 15/03/2020 <b>Annex_MR1_E1_03</b>
Project brochure	E1	30/06/2020	Completed 20/12/2020 <b>Annex_MR1_E1_08</b>
Project roll up	E1	30/06/2020	Completed 20/12/2020 <b>Annex_MR1_E1_10</b>
Project website	E1	30/06/2020	Completed
LIFE board	E1	31/12/2020	Completed 20/12/2020 <b>Annex_MR1_E1_11</b>
LWA Communication and Engagement Strategy	E1	31/03/2020	Completed 14/03/2020 <b>Annex_MR1_E1_03 to 06</b>
LWA Visual identity and brand manual	E1	30/04/2020	Completed 15/06/2020 <b>Annex_MR1_E1_07</b>
Project poster	E1	30/06/2020	Completed 20/12/2020 <b>Annex_MR1_E1_09</b>
Proxy analysis among project partners	E1	31/01/2020	Completed 30/01/2020 <b>Annex_MR1_E1_02</b>
15 Newsletters	E1	31/08/2024	Completed 30/09/2024 <b>Annex_FR_E1_03</b>
LAYMAN'S REPORT	E1	31/08/2024	Completed <b>Annex_FR_E1_13</b>
<b>MILESTONE</b>	<b>ACTION</b>	<b>EXPECTED</b>	<b>PROGRESS</b>
Go-live of the project website	E1	30/06/2020	Completed 01/08/2020
Go-live of the project Facebook page	E1	31/12/2019	Completed 30/03/2020
Launch of the project video	E1	31/12/2020	Completed 15/11/2022
First networking meeting	E1	31/03/2021	Completed 08/10/2020 <b>Annex_MR1_E1_20</b>
First project gadget	E1	30/06/2022	Completed 24/11/2020 <b>Annex_MR1_E1_12</b>

<b>Expected Results</b>	<b>Achieved Results and Status</b>
1 booklet for Young Ranger	Completed 12/2021 <b>Annex_MR1_C8_05</b>
1 passport for Young Ranger	Completed 12/2021 <b>Annex_MR1_C8_06</b>
1 manual for monitoring operators	Completed 12/2021 <b>Annex_MR1_E1_16</b>
1 guidelines about responsible wolf tourism	Completed on delay 03/2022 <b>Annex_MR1_C7_01</b>
1 brochure for dissemination campaign Action C1	Completed 20/03/2021 <b>Annex_MR1_E1_14</b>
1 poster for dissemination campaign Action C2	Completed 12/07/2022 <b>Annex_MR2_E1_04</b>
1 brochure for dissemination campaign Action C2	Completed 12/07/2022 <b>Annex_MR2_E1_05</b>
1 brochure for dissemination campaign Action C5	Completed 12/07/2022 <b>Annex_MR2_E1_06</b>
1 brochure for dissemination campaign Action C6	Completed 30/05/2023 <b>Annex_MR2_E1_07</b>

Project gadgets	Completed 01/06/2021 <b>Annex_MR1_E1_12</b>
At least 50 events for the general public	<b>Annex_MR1_E1_13</b> <b>Annex_MR2_E1_02</b> <b>Annex_FR_E1_02</b>
Citizens science laboratory	<b>Annex_MR1_E1_17</b>
1 brochure for dissemination campaign Action A7	<b>Annex_MR1_E1_18</b> <b>Annex_MR2_E1_08</b> <b>Annex_FR_E1_06</b>
Coordination meetings of the Communication Group	<b>Annex_MR1_E1_01</b> <b>Annex_MR2_E1_01</b> <b>Annex_FR_E1_01</b>
Posters for dissemination campaign Action C1	<b>Annex_MR2_E1_03</b>
Networking Workshop on Ecotourism	<b>Annex_MR2_E1_09</b>
Networking with LIFE BOREALWOLF	<b>Annex_MR2_E1_10</b>
1 information leaflet for veterinarians on poisoning and dog units in Austria by VUW	<b>Annex_FR_E1_04</b>
Booklet for hunters	<b>Annex_FR_E1_05</b>
New brochure by APAM	<b>Annex_FR_E1_07</b>
Animal tracks manual	<b>Annex_FR_E1_08</b>
Memorandum of Understanding	<b>Annex_FR_E1_09</b>
Networking with projects	<b>Annex_FR_E1_10</b>
Networking Workshop on Communication	<b>Annex_FR_E1_11</b>
Networking Workshop on Stewardship	<b>Annex_FR_E1_12</b>

## 6.1.21 Action E2 - Stewardship and Media Office to Enhance Engagement, Replication and Multiplication of the Project Impact

Beneficiary responsible for implementation: **MUSE**

Beneficiaries involved: **all Partners**

Action E2 is completed. It began in January 2020 and it developed in line with the project implementation plan.

### E2.1 Stewardship Office

The Stewardship Office was a highly innovative tool **aimed at building relationships and involving key stakeholders** (livestock breeders, hunters, environmentalists), but also a wider public and those stakeholder groups interested by the presence of the wolf (e.g., nature guides, tour operators, publishers etc.). The **Stewardship Office** was established in June 2020 ([Annex\\_MR1\\_E2\\_01](#)). The Office was composed by a member of each partner and met during the annual Communication Group Meetings, and its composition was subject to changes due to changes in staff composition.

The first key output of the Stewardship Office was the development of a **Stakeholder map** ([Deliverable, Annex\\_MR1\\_E2\\_02](#)), which included all the main stakeholders identified by the partners. The stakeholder map is **an online interactive tool that enables partners to visualise and thus correctly evaluate which stakeholders to involve in the meetings and thematic platforms**, the organisations that may have a specific interest in participating in the meetings, the people who can represent them and what strategies to put in place to actively engage them. The map has been designed according to the guidelines contained in the Stakeholder Engagement Strategy (see [Annex\\_MR1\\_E1\\_06](#)). Moreover, the map provides an **important tool to identify potential project Stewards**. The interactive map that summarises the effort made by all partners in identifying potential stakeholders and Stewards has been published [on the project website](#).



The Stewardship Office worked engaging Stewards, stakeholders who decided to get involved and actively interact with the project, although they did not necessarily embrace the project's points of view. A specific **Engagement Protocol for Stewards** was developed ([Annex\\_MR1\\_E2\\_03](#)): Stewards committed to sign a **Stewardship agreement** ([Annex\\_MR1\\_E2\\_04](#)) that included (1) the specific terms of collaboration agreed with the LWA EU consortium, (2) the acceptance of the protocol and (3) grant to the LWA EU consortium permissions to use their contact information and publish original contents developed during the collaboration. A specific logo was developed, and a [dedicated section of the project website](#) was implemented to present the Stewards involved.

A total of **32 Stewards** have been engaged (29 already reported in MR2, [Annex\\_MR1\\_E2\\_05](#); [Annex\\_MR2\\_E2\\_01](#); [Annex\\_FR\\_E2\\_01](#)). Thanks to the Stewards' involvement (often in more than one type of action), the project was able to **expand its outreach, increasing additional results that are replicates of project actions or even best practices**. Moreover, the added value

was that these actions were proposed by the Steward, thus guaranteeing continuity in the long term even after the end of the project. The main project action categories in which the Stewards operated were tourism (12 Stewards), communication (12 Stewards), prevention of wolves attacks on livestock (10 Stewards), and fieldwork such as wolf monitoring (11 Stewards), followed by education, with particular reference to the Young Ranger programme (6 Stewards) and the predator-prey-hunters research (3 Stewards). A dedicated page on the LWA EU website shows all project stewards, and the main results achieved in the framework



of the action are reported in a **dedicated booklet “Engaging in Coexistence”**, available in English and Italian ([Deliverable, Annex\\_FR\\_E2\\_02](#)). The booklet primarily synthesises the key elements of the stewardship office, providing an overview of the action's main objectives and activities conducted with project stewards. The booklet contains a critical analysis of the strengths and weaknesses of the action, recognizing successes, and addressing challenges encountered along the way. It aims to extract best practice and practical suggestions useful for future initiatives of this kind. An entire chapter is dedicated to the coexistence experiences of some of the most active stewards, since one of the book's main objectives was to give voice to the stewards themselves. The booklet also shares other international community involvement experiences in the conservation of various species, with dedicated in-depth boxes. This allowed the project to develop networking activities with other projects: Bear Smart communities in Canada, LIFE Bear Smart corridors, LIFE Lynx project and LIFE Orchids. As reported in the previous chapter a dedicated networking workshop was organized ([Annex\\_FR\\_E1\\_12](#)). 3.000 copies of the stewardship booklet have been printed by RELO and distributed among project partners, and the PDF in English and Italian is freely available [online](#).

As reported in MR1 and MR2, breeders stewards were engaged in increasing the transfer of prevention best practices (C1) but also in educational activities. Also, associations were involved in prevention activities, an example is the French steward Vigie Jura, who worked to help breeders in livestock protection by engaging volunteers in night surveillance of the herds. Hunters were involved in different fieldwork activities. The Associazione Cacciatori Trentini (ACT), a hunters association based in Trentino, actively participated in wolf population monitoring and in dissemination activities (including public events and 4 articles on the association magazine “Il Cacciatore Trentino”), but also co-designed a study to gain insights on the wolf predation at ungulate’s feeders in Val di Fassa. The study results have been reported in an article in the association's magazine, in a technical report, and it has been submitted to a peer-refereed scientific journal. In general, all the stewards contributed significantly to outreach activities, organizing public events during which informational materials produced by the project were distributed. In particular, the environmental association 'Io Non Ho Paura del Lupo,' in collaboration with the MUSE staff, created the **exhibition ‘The Wolf and Us,’** inaugurated at MUSE on May 19, 2024, during the family event organized as part of the project's final conference. Afterwards the exhibition was moved to the Campogrosso Refuge and later to the Aosta Valley. The exhibition was also translated into Slovenian and displayed by the project steward, Dina Pivka, as described in the [dedicated web page](#).

In addition **2 new supporting forms (Form A8)** have been signed to expand the collaboration across Europe ([Annex\\_MR1\\_E2\\_06](#); [Annex\\_MR2\\_E2\\_02](#); [Annex\\_FR\\_E2\\_03](#)).



*Left. Exhibition produced in stewardship with Io Non Ho Paura del Lupo which is now hosted by DINA Pivka, another steward in Slovenia; right: camera trap positioned to monitor wolf-ungulate interaction at feeding sites, in collaboration with hunters.*

## E2.2 Media Office

The Media Office ([Annex\\_MR1\\_E2\\_01](#)) implemented as expected the **Alpine press review** collecting daily all articles about the project and wolf in the Alps. The milestone of collecting the **first 100 articles** has been reached in June 2020 (**Milestone - Deliverable**, [Annex\\_MR1\\_E2\\_07](#)). So far, **a total of 4.965 articles have been collected** (4.532 already reported in MR2, [Annex\\_MR2\\_E2\\_03](#)), across all the Countries involved in the project, outnumbering the expected deliverable of 1.000 articles collected ([Annex\\_FR\\_E2\\_04](#)). Data gathering was carried out till the end of the project. The **first press release about the launch of the project** was published on 04/09/2019 (**Milestone**, [Annex\\_MR1\\_E2\\_08](#)). The media Office has produced a total of **119 press releases** (106 already reported in MR2) about the main results and activities of the project, 3 of them at Alpine level ([Annex\\_MR1\\_E2\\_09](#); [Annex\\_MR2\\_E2\\_04](#); [Annex\\_FR\\_E2\\_05](#)). The project was mentioned in **1374 articles, including newspapers and webzines**, (1.156 reported in MR2) **and broadcasted in 63 radio-tv shows** (48 reported in MR2). Human-wolf coexistence is an intensely debated topic with a broad resonance in the media. Media have a deep influence on public perception: they can play either a positive role in conservation, e.g. by raising species awareness, but often in the case of large carnivores, can contribute to the deepening of conflicts. For this reason, workshops specifically designed for media communicators were one of the most important goals of the LIFE WolfAlps EU media office. The **first workshop for media communicators** was organised in June 2021 by APAC-METO (**Milestone**, [Annex\\_MR1\\_E2\\_10](#)), and **12 more workshops were organised** (exceeding the expected result): 2 by APAC - METO, 1 APAP, 2 APAM, 1 RELO, 2 RELI, 2 SFS and 2 MUSE ([Annex\\_MR1\\_E2\\_11](#); [Annex\\_MR2\\_E2\\_05](#); [Annex\\_FR\\_E2\\_06](#)), reaching a large audience of local and national journalists and web communicators (**390 people reached**). MUSE staff also participated as an invited speaker in a workshop organized by Ordine dei giornalisti of Emilia Romagna in 2024.

One of the main goals of the media office was to promote correct information about wolves by countering the spread of false news. The media office was therefore active in identifying, including through press review, fake news and exposing it to the public. To enhance the **media office's role in debunking**, a **specific protocol** (**Deliverable**, [Annex\\_MR1\\_E2\\_12](#)) has been prepared in cooperation with the Facta news agency (member of the international Fact-Checking Network), specialised in debunking of fake news and misinformation. With **the aim of disseminating the best practices of the project**, a pdf manual for critical reading of wolf news for the general public was developed, again with the collaboration of Facta news. The handbook "**Lupus in Bufala**" ([Annex\\_MR1\\_E2\\_13](#)) was produced under assignment to Facta News by MUSE in [Italian](#), English and [German](#), and provides suggestions for debunking, examples of fake news about the wolf and, through FAQs, the correct information about the main false beliefs, so it can be considered as a best practice. "**Lupus in Bufala**" **has had a great media resonance in Italy**, and has been mentioned in 17 press articles, including 4 national ones, 2 podcasts, and an interview on one of the most important television programs on nature, on the public Italian national channel. MUSE produced the printable version of the booklet and printed 1700 copies.

In Slovenia, **four popular articles on the wolf** were published in the hunting magazine Lovec by SFS (**Deliverable**, [Annex\\_MR1\\_E2\\_14](#); **Deliverable**, [Annex\\_MR2\\_E2\\_06](#); **Deliverable**, [Annex\\_FR\\_E2\\_07](#)), as planned. In January 2023, an article with a general overview on the LWA EU project was published in eco.mont magazine (Vol. 15 N. 1). In December 2023, an article on the LWA EU activities performed to enhance wolf-human coexistence was published on Reticula ([Vol 34/2023](#)) a online informative magazine by the Italian Institute for Environmental Protection and Research (ISPRA), and in May 2024 an article dedicate to the Final Conference was published on [Le Scienze](#).

As discussed in MR2, the organisation of 10 press conferences by OFB as planned in the Grant Agreement of the Project LIFE WOLFALPS EU action E2.2 "Media Office" was considered no more feasible. In order to reduce the intensity and sensitivity of communication on the subject of this species, OFB opted to engage in a logic of trivialisation of communication actions on the subject, proposing 10 alternative actions more in line with the new communication strategy of the institution ([Annex\\_MR1\\_E2\\_15](#)). In addition to the article published on occasion of the 4th LWA EU Thematic Conference ([Annex\\_MR2\\_E2\\_07](#)), an article on the conference proceedings was also published in the French magazine Les Rencontres ([Annex\\_FR\\_E2\\_08](#)). As the population monitoring reports "Loup Flash Info" have been discontinued since winter 2021-2022, to continue giving the general public access to information, a webpage has been created showing all the wolf signs collected by the national wolf monitoring

network since 2013. The video on WPIUs was published in December 2023 on the OFB channel and on the LWA EU YouTube channel. The video regarding C3 Action was released in May 2023 on the OFB channel and on the [LWA EU YouTube channel](#). In addition to this nation-wide effort to improve communication with stakeholders, the OFB LWA EU team has also been acting at the local level to increase exchanges particularly with hunters in the scope of action C3, as described in Action E3. In particular in March 2024 a Research Café was organised at Bauges Regional Park with the general public hunting clubs and other local stakeholders in order to discuss the annual wolf monitoring and LWA EU activities.

The PNM replaced the educational tour in the PNM for journalists with its **annual press conferences organised by the PNM**, considering this solution to be more effective. The conferences were held in presence of the Park's president, staff members and the head of the services, in front of a panel of journalists of the department. In addition to the press conferences held in 2021, 2022 and 2023 reported in MR2 ([Annex\\_MR2\\_E2\\_08](#)), in May 2024 a press conference was organized and all the actions that in favour of man-wolf coexistence in the PNM (through LIFE wolf Alps and the National Action Plan) were presented ([Annex\\_FR\\_E2\\_09](#)).



*Research Café by OFB and PNM press conference in 2024.*

		2019		2020				2021				2022				2023				2024			
		3 T	4 T	1 T	2 T	3 T	4 T	1 T	2 T	3 T	4 T	1 T	2 T	3 T	4 T	1 T	2 T	3 T	4 T	1 T	2 T	3 T	4 T
<b>Action E2</b>	Proposed																						
	Actual																						

DELIVERABLE	ACTION	EXPECTED	PROGRESS
Stewardship program	E2	30/06/2024	Completed 06/2024 <a href="#">Annex_MR1_E2_05</a> <a href="#">Annex_MR2_E2_01</a> <a href="#">Annex_FR_E2_01</a> <a href="#">Annex_FR_E2_02</a>
Stakeholders map	E2	31/03/2020	Completed 20/12/2020 <a href="#">Annex_MR1_E2_02</a>
Fact checking and debunking protocol	E2	15/12/2020	Completed 01/06/2021 <a href="#">Annex_MR1_E2_12</a>
Shared Alpine Press Review about wolf in the Alps and project with at least 1000 entries	E2	31/08/2024	Achieved 1000 entries <a href="#">Annex_MR1_E2_07</a> <a href="#">Annex_MR2_E2_03</a> <a href="#">Annex_FR_E2_04</a>
At least 4 popular articles published in Slovene hunting magazine	E2	30/06/2024	Completed 09/2024 <a href="#">Annex_MR1_E2_14</a> <a href="#">Annex_MR2_E2_06</a> <a href="#">Annex_FR_E2_07</a>

<b>MILESTONE</b>	<b>ACTION</b>	<b>EXPECTED</b>	<b>PROGRESS</b>
Project launch press release	E2	31/12/2019	Completed 04/ 09/2019 <b>Annex_MR1_E2_08</b>
First 100 articles in the shared Alpine Wolf Press Review	E2	31/12/2020	Completed 01/06/2020 <b>Annex_MR1_E2_07</b>
First workshop for journalists and communications	E2	30/06/2021	Completed 08/06/2021 <b>Annex_MR1_E2_10</b>

<b>Expected Results</b>	<b>Achieved Results and Status</b>
Media Office is established	<b>Annex_MR1_E2_01</b>
At least 50 press releases released	<b>Annex_MR1_E2_09</b> <b>Annex_MR2_E2_04</b> <b>Annex_FR_E2_05</b>
Workshops for media communicators (journalists, bloggers, youtubers)	<b>Annex_MR1_E2_11</b> <b>Annex_MR2_E2_05</b> <b>Annex_FR_E2_06</b>
Additional supporting forms	<b>Annex_MR1_E2_06</b> <b>Annex_MR2_E2_02</b> <b>Annex_FR_E2_03</b>
OFB Communication strategy	<b>Annex_MR1_E2_15</b> <b>Annex_MR2_E2_07</b> <b>Annex_FR_E2_08</b>
Press conferences by PNM	<b>Annex_MR2_E2_08</b> <b>Annex_FR_E2_09</b>

### 6.1.22 Action E3 - Developing participatory approach and regional stakeholders' platforms

Beneficiary responsible for implementation: **RAVA**

Beneficiary co-responsible for implementation: **EURAC**

Beneficiaries involved: **all Partners**

Action E3 is concluded.

This action was structured for a participatory approach, **involving and engaging key stakeholders** (farmers, hunters and environmentalists) in order to have a more functional and direct connection to lower the conflict level (thus addressing Threats n. 3 and 4). Despite the delays and complications caused by COVID-19 restrictions that seriously compromised the organisation of such initiatives, the Action achieved all foreseen Milestones and expected targets. EURAC, with the contribution of MUSE and all partners, and with the expertise of a professional international Facilitator, elaborated a common Stakeholder Engagement Strategy (see [Annex\\_MR1\\_E1\\_06](#)) and a dedicated **Stakeholder Engagement Toolkit** ([Annex\\_MR1\\_E3\\_01](#)), as part of the project Communication Strategy. MUSE and EURAC elaborated an official Stakeholders Map (see [Deliverable, Annex\\_MR1\\_E2\\_02](#)) updated at the end of 2023. The Stakeholder Engagement Strategy and the Toolkit guarantee harmonisation and coordination of local stakeholders' platforms in each project area for the duration of the project. This allows the specific design of each platform as a participatory process, making use of innovative approaches that include dialogue and conflict resolution techniques aiming at converging to a set of potential actions to be implemented for an improved and more widely accepted management of wolves. Where needed, external professional facilitators provided their assistance.

#### E3.1 Thematic platforms

A total of **42 Thematic Dialogue Platform meetings** have been conducted, involving all key stakeholders, with over **1.250 participants** in total and in all project countries. In total **11 different platforms were organised by partners**, of which 7 took place in Italy, 1 in Austria, 2 in France and 1 in Slovenia. As planned, the platform meetings were organised in close connection to the A and C actions, with particular reference to those addressing key stakeholders and for Slovenia in connection to Action A8. The **first platform** was organised by APAM in Turin on 31/01/2020 ([Deliverable, Annex\\_MR1\\_E3\\_03](#)) and the **first thematic platform in Slovenia** was organised online by SFS on 31/05/2021 ([Milestone, Annex\\_MR1\\_E3\\_04](#)).

The [Platform's meetings proceedings booklet](#), the final Deliverable of the action, was elaborated including a section dedicated to the analysis of the results and a discussion on the most relevant outcomes and governance indications ([Deliverable, Annex\\_FR\\_E3\\_01](#)). As fully described in the booklet, the platforms were designed as a participatory process that included dialogue and conflict resolution techniques aiming to support the platform in converging to a set of potential actions to be implemented for an improved and more widely accepted management of wolves. As an example, an intense activity was carried out by RELO that organised dozens of meetings in the regional territory, with stakeholders coming from different organizations that did not know each other and that had to work together in order to identify objectives for the future of their territory. In an area characterized by emerging tensions and conflicts, this work made it possible to identify elements of agreement and common vision concerning coexistence between man and wolves.





*Thematic platform on pastoralism in Slovenia, October 2023, final meeting of APOS platform in September 2024 and facilitation posters used for discussion in Thematic platform organised in Valcamonica (RELO) in January 2023.*

## E3.2 Meetings with stakeholders

A total of **157 meetings with stakeholders** ([Annex\\_MR1\\_E3\\_05](#)) have been organised exceeding the expected number of meetings (75), and reaching over **2.700 participants** ([Annex\\_MR2\\_E3\\_02](#)). As reported in MR1, the **first meeting with environmental associations** was organised by APAM on 07/05/2020 ([Milestone, Annex\\_MR1\\_E3\\_06](#)), the **first meeting with farmers** was organised by METO on 26/03/2021 ([Milestone, Annex\\_MR1\\_E3\\_07](#)) and the **first meeting with hunters** was organised by MUSE on 23/02/2021 ([Milestone, Annex\\_MR1\\_E3\\_08](#)) in connection with E2.1, within the Stewardship Program.

A dedicated analysis of the issues discussed during 16 selected meetings was included in the booklet mentioned above, the “Platform’s meetings proceedings” ([Deliverable, Annex\\_FR\\_E3\\_01](#)). In general, all meetings were organised in accordance with the development of A and C actions, with particular reference to those addressing livestock breeders and hunters (A2, C1, A4 and C3) considered key stakeholders, together with environmentalists, especially at a local level to share project results, to discuss problems and perspectives. Despite the pandemic limitations that forced the on-line organisation of most of the meetings, project partners organised a total of **50 discussion meetings with Livestock Farmers, 60 with Hunters, 7 with Environmental Associations and 40 with other groups of stakeholders** non originally planned in the project, such as local or national public institutions, local associations for land development etc. Additional meetings were also organised for both hunters and other stakeholders by the project partners, for example in France by OFB and in Slovenia by SFS and UL to improve the communication and collaboration with hunting clubs.

An interesting example of the participatory approach, described in the booklet, was given by ERSAP that, from October 2023 to April 2024, organised 16 meetings in Lombardy Region (Italy) with four different categories of stakeholders directly affected, on a professional level, by the return of the wolf. During the meetings space was given to questions related to specific topics, questions were recorded, questionnaires were distributed. A final report was prepared as a compendium tool aiming at helping to structure in a targeted manner communication and public education strategies.



*Meeting with hunters by APAP, October 2023 (left) and with tourist operators by RELO/ERSAP in November 2023 (right).*



Two moments of the meetings with breeders by SFS, August 2024.

		2019		2020				2021				2022				2023				2024			
		3 T	4 T	1 T	2 T	3 T	4 T	1 T	2 T	3 T	4 T	1 T	2 T	3 T	4 T	1 T	2 T	3 T	4 T	1 T	2 T	3 T	4 T
<b>Action E3</b>	Proposed																						
	Actual																						

<b>DELIVERABLE</b>	<b>Action</b>	<b>Planned</b>	<b>Achieved Results and Status</b>
First meeting of a platform conducted within the common strategy	E3	30/11/2021	Completed 31/01/2020 <b>Annex_MR1_E3_03</b>
Platform's meetings proceedings booklet			Completed 30/09/2024 <b>Annex_FR_E3_01</b>

<b>MILESTONE</b>	<b>ACTION</b>	<b>EXPECTED</b>	<b>PROGRESS</b>
First thematic platform in Slovenia organised	E3	31/12/2021	Completed 31/05/2021 <b>Annex_MR1_E3_04</b>
First meeting with environmental associations	E3	30/12/2020	Completed 07/05/2020 <b>Annex_MR1_E3_06</b>
First meeting with farmers	E3	30/11/2021	Completed 26/03/2021 <b>Annex_MR1_E3_07</b>
First meeting with hunters 30/11/2021	E3	31/12/2021	Completed 23/02/2021 <b>Annex_MR1_E3_08</b>

<b>Expected Results</b>	<b>Achieved Results and Status</b>
Thematic Dialogue Platforms	<b>Annex_MR1_E3_02</b> <b>Annex_MR2_E3_01</b>
Meetings with stakeholders	<b>Annex_MR1_E3_05</b> <b>Annex_MR2_E3_02</b>

## 6.1.23 Action E4 - Education to train the stewards of tomorrow

Beneficiary responsible for implementation: **MUSE**

Beneficiaries involved: **MUSE, VUW, SFS, APAM, APAC, RELO, ERSAP, PNM, RELI, PNDB**

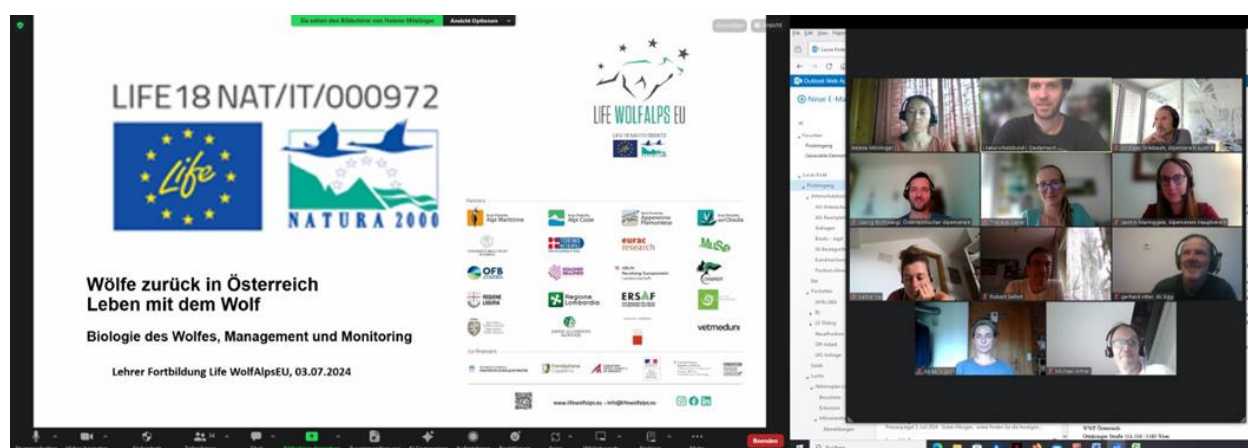
**Action E4 is completed. It began in January 2020 and it developed in line with the project implementation plan.** Like many other actions that require the actual presence of the participants, action E4 was severely affected by the Pandemic restriction. However, the limitations to indoor and outdoor workshops, conferences etc. decreased between 2021 and 2022, and since then all partners managed to start and proceed with their activities.

### Training courses and summer school for teachers and nature guides

**All four Summer Schools were organised.** In September 2020 APAM organised the first Summer School ([Milestone, Annex\\_MR1\\_E4\\_01](#)). Three more Summer Schools have been organised by APAM in 1-3/09/2023 and by VUW in 1-27/10/2022 and 23-24/09/2023, thus **achieving the expected result** ([Annex\\_MR2\\_E4\\_01](#)). The Italian Ministry of Education awarded both APAM Summer Schools credits for tenured teachers.

In total **24 training courses were organised**, exceeding the expected result (19). As reported in MR1, in 2021 the first teacher training course was planned by MUSE (17-20-28/05) with theoretical and practical sessions ([Milestone, Annex\\_MR1\\_E4\\_02](#)). An extra questionnaire for the participants to measure the knowledge and attitude of the participants (before/after) and quality of the training experience has been prepared by APAM and VUW thanks to the expertise of EURAC and has been adapted to be used by all partners ([Annex\\_MR1\\_E4\\_03](#)). In order to overcome the restriction due to the pandemic, APAM decided to involve primary and middle school students in on-line activities, starting from didactic material already available, the [Escape Room "Uomini e Lupi, coesistenza 'IM'possibile"](#) created by "Centro Uomini e Lupi". In March 2021 six classes of primary and middle school students participated. As reported in MR1 and MR2, **PNM** organised two teacher training courses in 2021 and an additional in 2023, and **one in 2024 with unspent budget from action E5** on wolf-related educational tools, called Animalle'Loup, to integrate the "Wolf in the backpack" toolkit ([Annex\\_FR\\_E4\\_01](#)).

APAM organised the 2 planned training courses in 2022 ([Annex\\_MR1\\_E4\\_04](#), see [Milestone, Annex\\_MR2\\_C8\\_02](#)) and in 2022 ([Annex\\_MR2\\_E4\\_02](#)). VUW organised all five teacher training courses, three reported in MR2 ([Annex\\_MR2\\_E4\\_03](#)), and **a fourth in December 2023 and the last one in 2024** ([Annex\\_FR\\_E4\\_02](#)), see image below.



In 2023, as reported in MR2, RELO organised all 4 teacher training courses called "Winter School" in collaboration with the University of Pavia and the Regional Parks, project supporters (Stelvio National Park, Parco dell'Adamello, Parco delle Orobie Bergamasche, Parco delle Orobie Valtellinesi), [Annex\\_MR2\\_E4\\_04](#), while APAC organised its **third course in November 2023** ([Annex\\_FR\\_E4\\_03](#)) after the 2 teacher training courses previously reported ([Annex\\_MR2\\_E4\\_05](#)). MUSE achieved the



expected 4 teacher training courses with 3 new ones from May to November 2022 ([Annex\\_MR2\\_E4\\_06](#)). Moreover, MUSE was invited to participate in a teacher training event organised by the Parco dell'Adamello and one by a school near Trento.

An “ambassador teachers” dedicated webpage displays the images of the different courses organised and testimonies of the ambassadors. **A total of 796 teachers** (706 reported in MR2) have been trained.

### **Kamishibai Theatre**

MUSE commissioned the company "Artebambini", founder of the Italian Kamishibai Association, to create the boards and theatre ("butai"). In March 2021, MUSE and APAM staff met at the Artebambini headquarters for a training day on Kamishibai story writing and interpretation, an opportunity to brainstorm on the plot of the story of the Kamishibai theatre. The final product of the kamishibai, **“The wolves' tree”** ([Annex\\_MR2\\_E4\\_07](#)) was produced in February 2023, in Italian and English. In March 2023 MUSE staff presented the theatre at the Bologna Children Book Fair, one of the most important international fair for children publications. The publisher Artebambini dedicated a special issue of the magazine for school teachers and educators “Dada”, with an article on the kamishibai and one about LIFE WolfAlps EU ([Annex\\_MR2\\_E4\\_08](#)). In March 2024 the publisher Artebambini put the kamishibai [for sale](#) in bookstores across Italy, allowing an increased visibility and use of this project output. The kamishibai has been used for educational activities in RELO by the 3 regional parks.

In addition, **24 extra workshops** were organised by MUSE and APAM reaching a total of **441 children** from primary schools (175 already reported in MR2).

**As additional result**, the supporter Stelvio National Park (Lombardy) produced a **kamishibai entitled “La vera storia di Lupois” dedicated to younger kids** with the aim of talking about the return of the wolf in the area and the about the relationship between the wolf, local people and other animals living in the Park. The activity also involved the delivery of a dedicated pin and a pendant with Lupois to be coloured by the kids. **508 children** were reached.

**A Wolf in a Backpack**: the educational kit on basic facts about wolves and their habitat was realized by MUSE ([Annex\\_MR2\\_E4\\_09](#)). As already reported in MR2, the kit consists of a booklet with outdoor activities for students on several biodiversity topics, so in addition to specific activities on the wolf, there are those on the landscape, plants and invertebrates living in the Alps. The accompanying tools are a wolf skull, a footprint cast, a wheel for identifying bark and leaves, and tools for catching and observing invertebrates. **The kit has been adapted according to the different needs of the educational staff of each partner and enriched with additional components** that were considered to be useful for the conduction of the activities, such as animal tracks and scats (faeces) (SFS produced 10 kits, PNDB and APAM produced 5 kits each, APAC produced 4 kits and MUSE 3), see images below.



*A wolf in a backpack toolkit by APAC and details from the PNDB's kit.*



*A complete Kit by SFS and one of the 3 skulls made in PLA+ with a 3D printer purchased by APAM and METO.*



*Some of the tracks and scats in resin purchased by PNM, MUSE and APAM.*

**PNM produced 8 personalised toolkits dedicated to the interaction between humans and pastoralism in the mountains**, addressing therefore one of the main critical issues in these territories. The kits, presented during a teacher training course mentioned above ([Annex\\_FR\\_E4\\_01](#)), are mainly to be used by "pastoral mediators" who are recruited each summer to make tourists and hikers aware of the presence of LGD, to talk about pastoralism and the presence of the wolf. The kit contains 6 games, plus resin skulls done (one wolf, one roe deer and one squirrel to have each diet adaptation). The 1<sup>st</sup> game focuses on "how to behave" in front of a herd / LGD, the 2<sup>nd</sup> focuses on the interpretation of LGD and human behaviours, the 3<sup>rd</sup> game focuses on the mountain across the seasons, the 4<sup>th</sup> focuses on the wolf's life cycle and social life, the 5<sup>th</sup> on how to tell a wolf from a wolf-dog and the last one focuses on the differences between LGD and shepherd dog. The toolkit was also translated in Italian by APAM and printed to be used by the Park staff and educators.





PNM also included as a complement of the “Wolf in a backpack” the [Animalle'loup kit](#), provided by the NGO Sours, that contains 50 activities that aim to provide a balanced understanding of the presence of the wolf in France and enables project-based teaching to gain a better understanding of the biology and ethology of the species and the impact of predation on domestic herds and the situation of farmers.

As previously reported, SFS organised the 10 planned workshops for nursery, primary and secondary schools ([Annex\\_MR1\\_E4\\_05](#)), plus 16 additional workshops. In 2024 SFS organised **seven more dissemination events** involving students, forest educators, regional institutions and two project stewards, DINA Pivka and Triglav National Park, thus reaching a total of **1020 students** (881 reported in MR2) (expected at least 200) and **107 forest educators, biology and nature conservation students**. In these occasions the toolkits were distributed and presented to the institutions for future use.

As the partners involved in the creation of the educational packages planned to promote these activities in their didactic programs, **APAC included the kit in its educational proposals to schools** and organised [presentation meetings for teachers](#) in September (beginning of the Italian school year) in the Turin area.



### More experts in the classroom

The expected result was exceeded with a total of **114 workshops** (52 reported in MR2) organised by APAM, MUSE, RELO, ERSAP, APAC, thus reaching a total of **2712 nursery, primary, middle, and high school students**, including 13 events not reported in MR2 by RELO (1140 already comprised in MR1 and MR2, [Annex\\_MR1\\_E4\\_06](#), [Annex\\_MR2\\_E4\\_10](#)). The **first workshop for secondary school kids** was organised by APAM on 25/03/2021 ([Milestone](#), [Annex\\_MR1\\_E4\\_07](#)). In addition, in occasion of the Sondrio Film Festival **3260 primary and middle school students** participated to the screening of the documentary “Ogni volta che il lupo” followed by a discussion with Orobic Valtellinesi Park experts (1360 students) and with Stelvio National Park experts (1900 students).

**SFS organised the 10 workshops** for vocational upper secondary and general high schools from April to June 2022, reaching a total of 182 students.



*Ex-ante* and *ex-post* evaluation of the activity (in connection with Action D1) has been defined through a series of meetings among partners ([Annex\\_MR1\\_E4\\_08](#)). The results of the analysis were reported in a manuscript entitled “In someone else’s shoes: cross-border survey of students’ attitudes to and knowledge of wolf (*Canis lupus*) and evaluation of learning approaches” that was submitted to papers for publication ([Annex\\_FR\\_E4\\_05](#)).

The **role-play activity** was produced in 2020 in Slovenian ([Deliverable](#),

[Annex\\_MR1\\_E4\\_09](#)) and translated in Italian as expected and English ([Annex\\_MR1\\_E4\\_10](#)). APAM implemented the first debate with role-play cards in June 2021, with 26 lower secondary school students

([Annex\\_MR1\\_E4\\_11](#)) and organised the last two expected debates in 2024 ([Annex\\_FR\\_E4\\_04](#)). **Additional educational activities** with primary and nursery pupils have been carried out by project partners (VUW, UNITO, APAM, RELO) following specific requests by local schools, and reaching a total of **616 students** (351 already reported in MR2).

#### **WolfQuiz (secondary schools)**

MUSE and APAM staff developed the Wolf Quiz “**How much do you know about the wolf?**” ([Deliverable, Annex\\_MR1\\_E4\\_12](#)), which is an interactive quiz. The selected platform is called PanQuiz! a free online software that allows kids to answer questions through their mobile phone. Since the PanQuiz! platform does not allow the explanation to appear together with the answer, a small vademecum has been produced for practitioners (ambassadors, guides, etc). Due to the playful nature of the questions, the quiz was also suitable for public events with kids. The quiz has been translated into 5 languages. So far 25 high school students tested the WolfQuiz application (03/03/2022, APAM) ([Annex\\_MR1\\_E4\\_13](#)). The WolfQuiz was also performed at MUSE during December 2022, in the frame of the museum’s Xmas activities for families and during the family day organized in the frame of the final conference, on 19 May 2024.

**Lupinella Companion book, “[I lupi delle Alpi](#)”** was published ([Annex\\_FR\\_E4\\_06](#)) in 2024. It is an illustrated book that provides an overview of the biology of the wolf, its prey and other large carnivores, as well as explaining the issues related to the presence of the species and the importance of coexistence. The final page is dedicated to an overview of the LWA EU project. MUSE/LWA EU staff benchmarked creative design studios at international and national level to invite them to the public procurement assignment for the production of the book. The selected publisher was Editoriale Scienza. The book used the same innovative public-private partnership formula used for Lupinella in the previous LIFE WolfAlps to increase the dissemination (and impact) of the book beyond the number of copies: MUSE printed 6.000 copies for free distribution, which were distributed among the project partners. Following consultation of the project advisor, it was decided to allow the **publisher Editoriale Scienza to put the book [for sale in bookstores across Italy](#)**. This did not result in any financial gain for the project partners, but it ensured greater dissemination and a larger impact of the publication, as well as a longer “life”, as it will be available in bookstores all over Italy. The book was released on 3 April 2024. Since then, **the book has been presented** with the support of a “Wolf in a backpack” toolkit, at relevant international and national fairs (Bologna Children Book Fair, Salone del libro di Torino and Festival Letteratura), as well as in libraries and bookstores, **reaching a total of 355 children in 15 book presentations**.



#### **UniversiWolf (university)**

A total of **16 events for university students have been organised**, exceeding the 6 expected conferences, **reaching in total 916 students**. As previously reported, APAM organised the first field activity in 2022 ([Annex\\_MR1\\_E4\\_14](#)), RELO organised a seminar cycle of 3 meetings in 2023, and VUW planned the first field trip for university students ([Annex\\_MR2\\_E4\\_11](#)). To the initiatives reported in MR1 and MR2 (4 by MUSE, 2 APAM, 2 APAC, 1 SFS), **in 2024 four more events were organised**: three in April (1 by VUW, 1 by MUSE, 1 for Third age University in Cuneo), and one in May by RELO ([Annex\\_FR\\_E4\\_07](#), [Annex\\_FR\\_E4\\_08](#)).

		2019		2020				2021				2022				2023				2024			
		3 T	4 T	1 T	2 T	3 T	4 T	1 T	2 T	3 T	4 T	1 T	2 T	3 T	4 T	1 T	2 T	3 T	4 T	1 T	2 T	3 T	4 T
<b>Action E4</b>	Proposed																						
	Actual																						

DELIVERABLE	ACTION	EXPECTED	PROGRESS
Role play educational cards prepared	E4	31/12/2019	Completed 31/12/2019 <b>Annex_MR1_E4_09</b>
Wolfquiz	E4	30/09/2021	Completed 30/09/2021 <b>Annex_MR1_E4_12</b>
MILESTONE	ACTION	EXPECTED	PROGRESS
First summer school implemented	E4	31/12/2020	Completed 04-06/09/2020 <b>Annex_MR1_E4_01</b>
First training course for teachers implemented	E4	30/06/2021	Completed 27/05/2021 <b>Annex_MR1_E4_02</b>
First workshop for secondary school kids	E4	30/06/2023	Completed 25/03/2021 <b>Annex_MR1_E4_07</b>

Expected Results	Achieved Results and Status
Training courses for teachers and nature guides	Completed 07/2024 <b>Annex_MR1_E4_04</b> <b>Annex_MR2_E4_02</b> <b>Annex_MR2_E4_03</b> <b>Annex_MR2_E4_04</b> <b>Annex_MR2_E4_05</b> <b>Annex_MR2_E4_06</b> <b>Annex_FR_E4_01</b> <b>Annex_FR_E4_02</b> <b>Annex_FR_E4_03</b>
SFS 10 outdoor workshops	Completed 28/05/2021 <b>Annex_MR1_E4_05</b>
3 workshops role-play	<b>Annex_MR1_E4_11</b> <b>Annex_FR_E4_04</b>
Expert in the classroom	Completed 06/2023 <b>Annex_MR1_E4_06</b> <b>Annex_MR2_E4_10</b>
UniversiWolf training	Completed 07/2024 <b>Annex_MR1_E4_14</b> <b>Annex_MR2_E4_11</b> <b>Annex_FR_E4_07</b> <b>Annex_FR_E4_08</b>
Summer Schools by APAM and VUW	Completed 09/2023 <b>Annex_MR2_E4_01</b>
Kamishibai theatre	Completed 02/2023 <b>Annex_MR2_E4_07</b> <b>Annex_MR2_E4_08</b>
Wolf in a Backpack	Completed 09/2023 <b>Annex_MR2_E4_09</b>
Students - Ex-ante and ex-post evaluation (in connection with D1)	<b>Annex_FR_E4_05</b>
Lupinella companion book - I lupi delle Alpi	<b>Annex_FR_E4_06</b>



### 6.1.24 Action E5 Creativity for conservation: innovative dissemination campaigns

Beneficiary responsible for implementation: **RELO**

Beneficiaries involved: **RELO, MUSE, APAM**

Action E5 is completed

The traveling exhibition on wolves “Through the eyes of the wolf” was **an immersive exhibition** that combined visual and digital works of art to trigger visitor’s personal emotions and feelings. Immersive exhibitions are successfully employed in the art domain, while it is an absolute novelty for Italy in the domain of conservation. During the early stages of benchmarking, it was identified and evaluated as a potential firm to be entrusted with the implementation of the exhibition “Sensory Odyssey”, an agency that developed a big immersive exhibition on natural ecosystems in Paris, therefore a delegation from MUSE made an evaluation visit on 26/10/2021. However, the study visit highlighted artistic and financial issues that made the co-production hypothesis unrealistic. All the steps made by MUSE staff were made in strong connection with RELO and APAM ([Annex\\_MR1\\_E5\\_01](#)).

From November 2021 to January 2022 MUSE / LWA EU staff benchmarked 8 creative design studios of international and national level to invite them to the public procurement assignment for the project of the exhibition both in terms of architectural set-up, technological project and filmmaking production. A judging committee composed of MUSE, APAM and RELO staff members met on 29/03/2022, and appointed the architectural, technological and filmmaking project to FilmWork ([Annex\\_MR1\\_E5\\_02](#)). The result is an immersive video with which visitors explore the environment through the perspective of a young wolf in dispersal, experiencing the challenge of coexistence from the animal’s point of view. In addition to the video installation, placed inside a stylised wolf’s head-shaped structure, information panels on various aspects of wolf biology and coexistence were produced. The immersive exhibition **“Through the eyes of the wolf/Nella mente del lupo” opened at MUSE on 04/11/2022**. The opening event was articulated in two parts: first a public event, with an interview to Luigi Boitani, emeritus professor at La Sapienza University of Rome, on the story of the wolf in Italy and Europe in the last 50 years, a conservation success and the challenges involved in protecting a species that trigger conflicting and intense emotions. The dialogue with Boitani was followed by the opening and visit of the exhibition. A total of 200 people participated ([Milestone, Annex\\_MR2\\_E5\\_01\\_MIL](#)). The exhibition was originally intended to be on display at MUSE from 05/11/2022 to 19/02/2023, but was extended to May 28th. “Through the eyes of the wolf” was visited by about 45.000 visitors in Trento. In addition, 3 side events to promote the exhibition were organised, reaching about 260 people.

The exhibition was promoted in the media (25 articles and videos) and online banner ads. The graphics for the flyer ([Deliverable, Annex\\_MR2\\_E5\\_02\\_DEL](#)) and poster adaptations were created by MUSE.

**The immersive exhibition was then moved to Cuneo** and hosted at the St. Francis Monumental Complex for the summer (10/06/2023-02/09/2023). The exhibition was enriched with **additional information panels on project actions, curiosities about wolves and a diorama**. The opening previewed a public event with speeches from the local authorities and an interview with Luigi Boitani (about 150 people participated). Thanks to the collaboration with the Parco Fluviale Gesso Stura and the sponsorship by the Cuneo Municipality and Fondazione CRC, the exhibition was complemented by conferences on wolves, activities for children, Young Ranger activities, and bicycle excursions including a visit to the Men and Wolves Centre in Entracque CN (about 60 people reached). In total, the exhibition was attended by over 4.000 visitors.





Finally, the **exhibition moved to its final destination, in Milan**, in Palazzo Lombardia, RELO's headquarters. It opened on 11/09/2023 until 12/10/2023. Thanks to the collaboration with the University of Pavia, 20 information boards on wolf ecology, biology, history, fake news etc. were displayed. A scientific conference, educational activities and guided tours were planned to attract tourists and locals ([Annex\\_MR2\\_E5\\_03](#)). The exhibition was attended by over 1.906 visitors, including 463 students involved in educational activities. The additional panel made by RELO was hosted from 24/03/2024 til 15/06/2024 at the Ticino Natural Park visitor center and was attended by 204 people.

In addition to the planned exhibition, **MUSE collaborated with two art studios and designers** (Formafantasma and MaliWeil), providing them with materials and videos for the installations. "Oltre Terra" is an exhibition by Formafantasma focused on the history, ecology, and global dynamics of the extraction and production of wool. Commissioned by the National Museum of Oslo, the exhibition was on view from May 26th to October 1st 2023.. "[The Mountain of Advanced Dreams](#)" was developed by the art platform Mali Weil was the winner of the 10th edition of Italian Council, a program that aims to promote Italian contemporary art in the world by the Directorate-General for Contemporary Creativity of the Italian Ministry of Culture. The video installation focuses on interspecies diplomacies, i.e. a reflection on the different interactions among living beings.



In the frame of E5 action, MUSE had a dedicated budget for a National online innovative campaign. Due to the growing interest in podcasts, particularly among teenagers and young adults, it was decided to produce a podcast to disseminate information on wolf ecology and behaviour. After a benchmarking and selection procedure, MUSE assigned the podcast production to Cast Edutainment, which authored several popular podcasts at the Italian level. The **podcast "Sei il lupo"** (in Italian) is divided into 5 episodes during which we follow the vicissitudes of a hypothetical wolf. The pure fiction in which the wolf addresses the listener in the first person is flanked by informative content that explains the reality behind the pure invention, i.e. what we know about that aspect of wolf biology based on studies. In each episode specific phases of the wolf's biological cycle are narrated: birth

and parental care, the transfer to the rendezvous, the pups' games, the first hunting outings, dispersion and the establishment of a new pack. There is no shortage of conflict situations with human activities, from predation to livestock, entry into peripheral areas and investment. The podcast seeks to reach among the general public those who have only heard of the wolf, perhaps in the headlines, and would like to know more about it, or those who are fond of stories and would like to get to know this animal, and providing them in a easy-manner some basic information on wolf biology and the challenge of coexistence. **The podcast is available freely on all the major audio streaming platforms:** [Spotify](#), [Apple podcast](#), [Amazon music](#), [Audible](#) and Megaphone. So far more than 2000 people listened to the podcast on Spotify (data for the other platforms are not available).

The travelling escape room planned by E5 was cancelled: as reported in the answer in the Appendix II of the grant agreement ([Annex\\_MR1\\_8\\_01, answer 12](#)) the budget for the escape room was moved to the budget for E1 to reinforce awareness and dissemination campaigns for stakeholders. APAM retained part of the budget to host the immersive exhibition. As the hosting of the immersive show in France by PNM would have cost more than expected, part of the funds dedicated to Action E5 were used to organize a training course on wolf-related educational tools, called Animalle Loup (see [Annex\\_FR\\_E4\\_01](#)). This tool was designed by the NGO Sours some ten years ago and financed by the DREAL AuRA, which coordinates the National Action Plan for wolves and livestock activities.



		2019		2020				2021				2022				2023				2024			
		3 T	4 T	1 T	2 T	3 T	4 T	1 T	2 T	3 T	4 T	1 T	2 T	3 T	4 T	1 T	2 T	3 T	4 T	1 T	2 T	3 T	4 T
<b>Action E5</b>	Proposed																						
	Actual																						

DELIVERABLE	ACTION	EXPECTED	PROGRESS
Leaflet for Wolf immersive show	E5	30/06/2022	Completed 04/11/2022 <b>Annex_MR2_E5_02</b>
MILESTONE	ACTION	EXPECTED	PROGRESS
Opening of the immersive show	E5	30/06/2022	Completed 04/11/2022 <b>Annex_MR2_E5_01</b>

Expected Results	Achieved Results and Status
Immersive show in Cuneo and Milan	Completed <b>Annex_MR2_E5_03</b>

## 6.1.25 Action E6 - Touring thematic conferences

Beneficiary responsible for implementation: **VUW**

Beneficiaries involved: **EURAC, VUW, OFB, APAM, MUSE as organisers. All partners participated.**

Action E6 is completed. It began in January 2021 and its development was in line with the project implementation plan.

The **first thematic conference** was organised by EURAC on 27/05/2021 ([Milestone, Annex\\_MR1\\_E6\\_01](#)), with a live broadcast on Zoom, due to Covid-19 restrictions, with simultaneous translation into Italian, French, German and Slovenian, and a live stream on Youtube and Facebook. A total of 648 participants from 29 countries, 77% of them active and with an average attendance of over 5 hours, participated. Conference recordings have been uploaded on the YouTube channel of EURAC and the link has been shared on LIFE WolfAlps EU website and social media.

The action is concluded with all **6 conferences organised** ([Annex\\_MR2\\_E6\\_01, Deliverable, Annex\\_FR\\_E6\\_01](#)). The [Second Thematic Conference](#) “Bold wolves: documented cases, perceptions and management guidelines”, organised by RAVA, was held in Bard on 29/04/2022 (Aosta, Italy) and broadcasted on YouTube Channel. The conference focused on bold wolves, and reached 89 people in presence and 253 in streaming.

The [Third Thematic Conference](#) “Innovative herd protection” focused on prevention measures, took place in Austria on 13/06/2022 at AREC Raumberg-Gumpenstein, and streamed via Zoom (75 participants in total). According to the project, VUW was in charge of the organisation. However, because of AREC’s better connections to relevant stakeholder groups (especially farmers) it was agreed by VUW and AREC that it would have been more suitable to leave AREC in charge of the conference in Austria.

The [Fourth Thematic Conference](#) “Is the grass always greener elsewhere?” was organised by OFB, in collaboration with PNM. It was scheduled for 2021 but was postponed, and took place in Barcelonnette on 05-06/12/2022, and a total of 424 people attended both in presence and online. The objective of the conference was to share information and experience about wolf management in the four countries that comprise the LWA EU project (France, Italy, Austria and Slovenia), as well as elsewhere in Europe (Germany, Spain, Slovakia), to the general public and other key stakeholder groups.

As planned the [Fifth Thematic Conference](#) “Towards large-scale wolf population monitoring- Challenges and perspectives” was organised by APAM, METO and UNITO and took place on 19/09/2023 at the Department of Life Sciences and Systems Biology (University of Turin). The conference had a scientific content of European interest, covering topics such as new approaches of the estimation of large-scale wolf populations, modelling techniques, new approaches of genetic techniques, through talks by European scientists and biologists, experts in these topics. The conference was attended by 140 people in presence and 300 online through the UNITO dedicated channels (Unito Media).



The **sixth and Final Thematic Conference** of the LWA EU project was held in Trento and organised by MUSE ([Annex\\_FR\\_E6\\_01, Deliverable](#)). It was a 3-day event with two days of conference (17-18 May), one evening event dedicated to the general public (17 May) and a day for families (19 May).

A dedicated graphic design as well as dedicated gadgets (t-shirt, shopper, pens, notebook and pencils) were designed and produced. Press releases and digital advertising were done to increase the event's visibility at a National level. Several journalists were invited to the conference. Three coffee breaks and a buffet dinner

were organised for all partners, stewards and invited speakers.

**The first two days of Conference took place at the ITAS forum hall in Trento**, Le Albere district, and were dedicated to an account of the main actions developed during the project: prevention, anti-poaching, fight against hybridisation, the study of prey-predator relationships and human activities, ecotourism, public involvement and communication.

Several invited hosts brought relevant international experiences about coexistence at the conference, also promoting networking with different projects.

The topic of wolf conservation and management was thoroughly explored, providing the audience with a wealth of knowledge. The insights of key speakers, including Andrea Vettori (Director of the Nature Conservation Unit of the European Union's Environment Directorate), Piero Genovesi (head of the Wildlife Coordination Area at the Italian Institute for Environmental Protection and Research -ISPRA), and Rok Černe (WISO), offered a comprehensive overview of European policies, Italian management, and Alpine Convention activities, respectively.

Alexandra Zimmerman, researcher at Oxford University's WILDCRU and chair of the International Union for Conservation of Nature's (IUCN) Human-wildlife conflict specialist group, spoke about global policies to promote coexistence and reduce conflicts, highlighting the importance of taking into account human dimension. Exchanging experiences and networking with other European projects is crucial to address the complexity of the coexistence issue, which is why Anita Fassio from CINEA was invited to provide an overview of the LIFE programme's contribution to large carnivores, Valeria Salvatori from LCIE to talk about an example of a local platform for large carnivores, and representatives from LIFE Boreal Wolf and LIFE LYNX.

The event was in English with simultaneous translation in Italian and was streamed on the YouTube Channel of the LWA EU project. The event was attended by about 230 people in attendance and 1940 in streaming.



**The evening event for the general public was held at MUSE**, in the main hall, addressed for the occasion as a big conference room, on the evening of 17 May. It was a dialogue between two of the main experts in wolf ecology and conservation: Douglas Smith, Senior biologist at Yellowstone National Park, and Luigi Boitani, professor emeritus at La Sapienza. They discussed the wolf population in Yellowstone National Park from scientific discoveries, to management and conservation. **The event was in English with simultaneous translation in Italian and was streamed on the YouTube Channel of the project and was**

**attended by 200 people in attendance and 700 in streaming.**

**Sunday 19 May at MUSE was dedicated to families with activities for all ages.** The event included workshops, videos, talks, shows, and exhibitions focused on the wolf and coexistence. It was a great opportunity to meet the project partnership staff and the stewards. A welcome desk, an information area on the project, was set up in the museum's main hall, with info-panels summarising the main activities, an infopanel with the main FAQs on the wolf, and one dedicated to correct behaviour in wolf areas. A screen continuously broadcasted the camera-traps videos taken all over the project areas in the frame of wolf monitoring activities. The info point showed and distributed all the project informational and educational materials. At least two staff members were present to provide information and collect bookings for the free educational workshops.

Wandering through the museum four floors, a rich daily programme gave families the opportunity to choose from **many workshops dedicated to different age groups**: among these, it was possible to take part in one of the 10 workshops showing all the variety of educational activities produced in the frame of action E4, such as A wolf in the backpack, Animalle'Loup, Role play cards, kamishibai and Wolf Quiz. Two new publishing products realised within the project were presented: the book "I lupi delle Alpi" (Wolves of the Alps), realised by MUSE and Editoriale Scienza, and the book "Living with wolves", an illustrated book with the works realised by the artists of the Artist for Nature Foundation within the framework of the ArtCamp held in Slovenia.

**In the main hall of the museum a speaker corner allowed project partners to present to the general public the project actions.** A corner was devoted to project stewards enabling them to show the activities they've done in collaboration with LWA EU; **it was also possible to visit the new exhibition realised in**



collaboration with the NGO “Io non ho paura del lupo” as part of the stewardship programme: 'The wolf and us: knowing to coexist'. Another exhibition was set up: 'Depero for coexistence', realised by the NGO Pams Foundation, with the drawings made by students from the Liceo Artistico Depero in Rovereto who performed a round year educational activities on coexistence. A cinema hall was set to broadcast all the project videos, and the MUSE's conference room turned into a theatre, with the performance “Paolo dei Lupi” by Bradamante teatro, which was

inspired by the adventurous life of biologist and poet Paolo Barrasso, who, in the 1970s, worked on the first project to save from extinction the Apennine wolf in Italy.

The MUSE garden was set up to host in a large area the demonstrations of the training of the Anti-Poison Dog Units, which took turns during the morning and early afternoon. Also, in the garden was set up a space dedicated to prevention measures: two local farmers brought sheep and guard dogs and demonstrated how the electrified nets work.

**850 people visited MUSE on 19 May.**

		2019		2020				2021				2022				2023				2024			
		3 T	4 T	1 T	2 T	3 T	4 T	1 T	2 T	3 T	4 T	1 T	2 T	3 T	4 T	1 T	2 T	3 T	4 T	1 T	2 T	3 T	4 T
Action E6	Proposed																						
	Actual																						

DELIVERABLE	ACTION	EXPECTED	PROGRESS
Thematic conference and final conference proceedings	E6	30/0/2024	Completed 19/15/2024 Annex_FR_E6_01
MILESTONE	ACTION	EXPECTED	PROGRESS
First thematic conference	E6	31/12/2020	Completed 27/05/2022 Annex_MR1_E6_01



## Project management (obligatory) (Actions F)

### 6.1.26 Action F1 - Coordination, management and administration of the project by the project steering groups

Beneficiary responsible for implementation: **APAM**

Beneficiaries involved: **all Partners**

The **Organization chart**, set up in 2019 within Action A1, considering the changes among the people involved in the project (as detailed in **Chapter 5.2**) has been updated. The co-management structure and the new persons involved have been reported in blue character ([Annex\\_MR1\\_F1\\_01](#) to the MR1, [Annex\\_MR2\\_F1\\_01](#) to the MR2 and finally [Annex\\_FR\\_F1\\_01](#)).

Also, the table identifying the persons involved in the **4 working groups (Coordination, Technica/Conservation, Communication, Administrative)**, set up in 2019 within Action A1, has been updated. The new persons involved have been reported in blue character (**Milestone**, [Annex\\_MR1\\_F1\\_02](#) to the MR1, [Annex\\_MR2\\_F1\\_02](#) to the MR2 and [Annex\\_FR\\_F1\\_02\\_MIL](#)).

A **full Action plan** was prepared within Action A1 ([Annex\\_MR1\\_A1\\_05](#)), together with a detailed **Timetable** and the list of meetings planned. The Action plan (excel document) was shared online to every partner and to the monitor. A precise program of the activities was defined from the first year of the project to the end. With the coordination of APAM/UNITO team, directly into the excel Action Plan shared online, each partner continuously updated the progress of activities every 3 months. This tool was implemented for all the duration of the project and the final version 2024 is annexed to the report as a Deliverable ([Annex\\_FR\\_F1\\_03\\_DEL](#)).

During the project implementation, changes of **Legal Representatives** for each partner have been verified and monitored in a table: new legal representatives and their date of nomination have been edited in blue (name and date of nomination) and the table annexed to each Midterm Report ([Annex\\_MR1\\_F1\\_03](#) and [Annex\\_MR2\\_F1\\_03](#)). The same has been done for the Final Report: in a .zip file, the updated final table and acts of nomination are attached ([Annex\\_FR\\_F1\\_04](#)).

From the beginning of the project, **4 annual meetings** among partners have been organised, before the monitoring visit. Even if a regular exchange among personnel is established, both for technical and financial part, as well as among working groups, these meetings are important for having an overall progress of the actions and the achievement of the expected results and assures an overall coordination. This is the occasion to bring out any delay or difficulty and to discuss together for solving problems and continue to work in the right way, in accordance with the work plan approved. The **first annual meeting** was held on 11<sup>th</sup> June 2020 ([Annex\\_MR1\\_F1\\_04](#)), the **second annual meeting** on 9<sup>th</sup> June 2021([Annex\\_MR1\\_F1\\_05](#)), the **third annual meeting** on 20<sup>th</sup> April 2022 ([Annex\\_MR1\\_F1\\_06](#)). After the kick-off meeting that fortunately was held in presence and staff got to know each other, due to the Covid-19 pandemic restrictions, all annual meetings have been held online. The **4<sup>th</sup> annual meeting** was held online on 11<sup>th</sup> of April 2023 ([Annex\\_MR2\\_F1\\_04](#)), followed in the same month by the Monitoring and Joint Visit in Trento, hosted by MUSE. During the last project year, the meetings within and between working groups have been enhanced in order to finalised all the activities and the overall progress to all beneficiaries has been presented during the **final conference**, organised and hosted by MUSE in Trento on 17-19/05/2024 (described within Action E6) and during the 2 monitoring visits (16/11/2023 and 16/09/2024).

The project received **6 monitoring visits**. Due to the Covid-19 pandemic restrictions, the first 3 monitoring visits have been held online on 12/06/2020 ([Annex\\_MR1\\_F1\\_07](#)), 14-16/06/2021 ([Annex\\_MR1\\_F1\\_08](#)) and 26-28/04/2022 ([Annex\\_MR1\\_F1\\_09](#)). Fortunately, the 3<sup>rd</sup> monitoring visit in 2022 could end with an in-person meeting between project personnel and the monitor during the 2<sup>nd</sup> international thematic conference (within Action E6), that was organised by RAVA in Bard on 29<sup>th</sup> April 2022 (Bold wolves: documented cases, perceptions and management guidelines). The 4<sup>th</sup> Monitoring and Joint Visit on 13-14/04/2023 was held online and continued on the field on 19-21/04/2023, with the presence of the Project



Advisor Anita Fassio in Slovenia and Italy ([Annex\\_MR2\\_F1\\_05](#)). The 5<sup>th</sup> Monitoring Visit was held online on 16/11/2023 for all partners and in presence at Valdieri (in the APAM headquarters) for the Coordinating beneficiary APAM-UNITO team and the Monitor Iva Rossi. The monitoring visit continued on the field in Chiusa di Pesio (CN) on 17/11/2023 ([Annex\\_FR\\_F1\\_05](#)). The final monitoring (6<sup>th</sup>) visit was held online on 16/09/2024 for all beneficiaries and in presence at Torino (in the UNITO headquarters) for the Coordinating beneficiary APAM-UNITO team and the Monitor Iva Rossi. The monitoring visit continued on the field in France on 17/09/2024, hosted by OFB, at Savoie, Massif des Bauges ([Annex\\_FR\\_F1\\_06](#)).

During the project implementation period (2019-2024) **2 Amendments to the Grant Agreement** ([Annex\\_MR1\\_F1\\_10](#) and [Annex\\_MR1\\_F1\\_11](#)) have been signed, as detailed in Chapter 5.4.

Moreover, following the 19 Partnership agreements signed within Action A1 between the coordinating beneficiary and the associated beneficiaries, during the reporting period **Amendments to Partnership agreements** occurred, as described in **Chapter 8.3**.

The financial reporting activity carried out during the project implementation is commented in the dedicated section in **Chapter 8**.

		2019		2020				2021				2022				2023				2024			
		3 T	4 T	1 T	2 T	3 T	4 T	1 T	2 T	3 T	4 T	1 T	2 T	3 T	4 T	1 T	2 T	3 T	4 T	1 T	2 T	3 T	4 T
<b>Action F1</b>	Proposed																						
	Actual																						

DELIVERABLE	ACTION	EXPECTED	PROGRESS
Progress Report	F1	30/11/2020	CANCELED BY EC DURING THE REVISION PHASE
Action Plan 2021	F1	15/12/2020	Completed 12/2020 <a href="#">Annex_MR1_A1_05</a>
Midterm Report	F1	30/05/2022	Completed 30/05/2022
Action Plan 2023-2024	F1	15/12/2022	Completed 12/2020 <a href="#">Annex_MR1_A1_05</a> Updated version 2023 <a href="#">Annex_MR2_F1_06</a> Final version 2024 <a href="#">Annex_FR_F1_03_D EL</a>
Midterm Report	F1	30/11/2023	Completed 30/11/2023
3-months reports for the duration of the project	F1	31/08/2024	Completed <a href="#">Annex_FR_F1_03_D EL</a>
Final Report	F1	30/11/2024	Completed
MILESTONE	ACTION	EXPECTED	PROGRESS
Project working teams established	F1	30/03/2020	Completed 11/2019 <a href="#">Annex_MR1_A1_01</a> Updated 2022 <a href="#">Annex_MR1_F1_02</a> Updated 2023 <a href="#">Annex_MR2_F1_02</a> Final version 2024 <a href="#">Annex_FR_F1_02</a>
Set up of project administrative procedures	F1	30/03/2020	Completed 11/2019 <a href="#">Annex_MR1_A1_07</a>

Expected Results	Achieved Results and Status
Annual project meetings	First 11 <sup>th</sup> June 2020 <a href="#">Annex_MR1_F1_04</a> Second 9 <sup>th</sup> June 2021 <a href="#">Annex_MR1_F1_05</a> Third 20 <sup>th</sup> April 2022 <a href="#">Annex_MR1_F1_06</a> Fourth 11 <sup>th</sup> April 2023 <a href="#">Annex_MR2_F1_04</a>
Annual Monitoring visit	First 12/06/2020 <a href="#">Annex_MR1_F1_07</a> Second 14-16/06/2021 <a href="#">Annex_MR1_F1_08</a> Third 26-28/04/2022 <a href="#">Annex_MR1_F1_09</a> Fourth 13-14/04/2023 <a href="#">Annex_MR2_F1_05</a> Fifth 16-17/11/2023 <a href="#">Annex_FR_F1_05</a> Sixth 16-17/09/2024 <a href="#">Annex_FR_F1_06</a>
External financial audit (for beneficiary requested at least 750,000 euros of contribution)	APAM done OFB done

### 6.1.27 Action F2 After LIFE conservation plan

The action started on 07/2023 for the realization of the document ([Deliverable, Annex\\_FR\\_F2\\_01](#)). The AfterLIFE plan, finalized in 07/2024, was outlined and drafted with contribution of each Project Beneficiaries, and according to the continuation of the best practices and key activities implemented during the project fund, after the project end, for 5 years (2025-29):

- Coordination
- Surveillance on the wolf alpine population
- Wolf damage prevention
- Illegal killing
- Assessment of the relationships between wolves, wild prey, human activities
- Managing wolf-dog hybridisation and injured wolves
- Decrease of habitat fragmentation and wolf traffic mortality through recovery of identified sink areas
- Eco-tourism
- Young Ranger Program
- Communication and dissemination

This Plan is aimed at moving forward in addressing the seven threats dealt throughout the duration of the project, while ensuring the sustainability of the strategies that were tested. Technical details are outlined in the deliverable and the formal Beneficiaries' economic commitments are attached to the After-LIFE Conservation Plan ([Deliverable, Annex\\_FR\\_F2\\_01](#)).

		2019		2020				2021				2022				2023				2024			
		3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Action F2	Proposed																						
	Actual																						

DELIVERABLE	ACTION	DEADLINE	PROGRESS
After LIFE Conservation Plan	F2	06/2024	Achieved <a href="#">Annex_FR_F2_01_DEL</a>

## 6.2 Main deviations, problems and corrective actions implemented

This chapter provides an overview of the key challenges encountered throughout the implementation of the LIFE Wolfalps EU project, highlighting the deviations and obstacles faced (overcome with project implementation in most cases) at different stages. The discussion is organized chronologically, illustrating how each issue was addressed through corrective actions and the strategies implemented to overcome them. The issues described in depth (and overcome) in the former MR1 and MR2 are summarized below.

**The main project modification that required an amendment (see Amendment Request n. 1 to the Grant Agreement signed by the EC in October 2020) was the inclusion of the University of Torino (UNITO) as 20th project Beneficiary, which received the scientific and technical coordination of the project in close synergy and collaboration with the Beneficiary Coordinator.** Although this inclusion required a related and approved financial modification, it didn't cause any additional costs for the project, even granting additional effort (see the Ch.8 for financial details). The participation of UNITO was in fact to assure the high-quality level of the Technical and Scientific coordination (action F1), and it provided benefits in the implementation and management of many other actions (in particular A4, A5, A6, C3, C4, C5, E1, and D actions), also in view of a long-term partnership in future projects.

As widely discussed in MR1 and in MR2, the first two years of the LIFE WolfAlps EU project were significantly impacted by the Covid-19 pandemic, which delayed meetings, training, and field activities by about a year. Despite these challenges, the project team worked to adapt and achieve the results outlined in the Grant Agreement. The implementation of action D1.1, which involved gathering stakeholder questionnaires, was particularly affected, leading to a shift to indirect communication methods.

**Implementation of Action A4/C3 by OFB in France, despite challenging circumstances and initial setbacks in defining a study site (refer here to first mid-term report), were achieved as expected.** Difficulties arose at the beginning of the action C3 due to a lack of trust between the OFB and different stakeholders, including hunter federations at both national and local level, because of their history of disagreements and misunderstandings that went beyond this LIFE project and pertain to wolf management, wolf numbers, lethal control and the impact of wolf predation on hunting (refer again to the first mid-term report here). Yet, despite this challenging background, and after several unsuccessful attempts to identify a study site in France in the Vercors and Belledonne massifs, as planned ([Deliverable, Annex\\_MR1\\_A4\\_2](#)), the project team has succeeded in engaging with local stakeholders, and particularly hunters, to set up the LWA EU predator-prey-human activities study in the Bauges reserve in the northern French Alps (action C3). The process leading to this breakthrough has been documented through the organisation of many meetings held with stakeholders, again particularly with hunters (details in Action A4/C3). After years of opposition in collaborating with the OFB on a predator-prey study, the Large Carnivore Working Group of the National Hunter Federation issued a positive opinion on the Action C3 study on March 30, 2022. According to the representatives of hunters, the reasons for this turnaround is to be found in the great effort implemented by OFB in improving the **participatory approach**, involving Regional Parks, the national forestry agency, other research institutes, etc and the inclusion of a large set of hunter questions and concerns in the study design. Despite the opposition of local breeders, the OFB has continued to collaborate with local partners to reassure breeders and dispel wrong notions about wolves. As a result, the OFB publicly announced the Bauges reserve as the official study area for action C3 in France, obtaining the final go-ahead from all parties. The Deliverable of Action A4 submitted in MR1 ([Annex\\_MR1\\_A4\\_2](#)) was updated with the new study area [Deliverable, Annex\\_MR2\\_A4\\_1](#) (Bauge Massif). The OFB began the camera trap component as described in Action C3 in June 2023. Given the availability of a pool of data on ungulates that are already GPS-collared at the Bauges reserve, a small part of the budget initially allocated in the A4 Equipment, for 142 GPS collars for ungulates (€284,000 originally needed in the Vercors and Belledonne massifs area), was reallocated to purchase camera traps in C3. This non-invasive method is more appropriate in the new French area because it is complementary to the use of GPS collars, because it has provided information on the occurrence of several species, and because it is a technique that hunters are well familiar with. Therefore, the use of this tool provided additional opportunities for hunter participation in the project, improving the implementation of action C3. Some of the A4 budget also was used to acquire a quad which greatly improved the accessibility of the study site and security conditions for LWA EU staff. Ten GPS collars for roe deer have been acquired with LWA EU funds and are planned to be deployed during the winter 2023-2024. Finally, a rich dataset containing thousands of locations obtained from 35 GPS-collared roe deer in the Bauges reserve was shared with project partners of Action C3, to

allow for a joint analyses of roe deer use of space under predation risk from wolves and hunters in France, Italy and Slovenia. All these efforts contributed to overcoming the main challenges met at the beginning in France, and **in 2024, local hunters agreed to participate in a communication video about action C3 in the Bauges reserve.**

As widely discussed in MR2, the project effectively addressed effective wolf-dog hybridization for the first time in the Ligurian-Appennine Ecological Corridor (main target area of intervention), where the presence of African Swine Fever (ASF) posed significant challenges, slowing down the implementation of field interventions in the Province of Alessandria. Despite complications introduced by ASF, careful coordination provided by APAP ensured safety and compliance while performing the mitigation measures involving other Public Bodies (such as Provincia di Alessandria) totally **overcoming the issue both at the institutional and operating level.**

One of the most significant challenges encountered during the final part of the LIFE Wolfalps EU project in Slovenia was the prolonged process of adopting the Slovenian Wolf Action Plan. This difficulty not only represented a major obstacle for the project but also underscored the complexities of aligning various stakeholders and authorities in the development of strategic documents. **Despite the considerable efforts invested, particularly by the Slovenia Forest Service (SFS), the adoption of the plan was delayed due to the procedural and bureaucratic obstacles inherent in governmental processes.** SFS, together with its partners, went to great lengths to ensure the timely completion of the strategic documents, working with relevant authorities to move the adoption process forward.

The Slovenian partners involved in the A8 action (SFS, UL) did all that they could till the end of the project: they established the expert group for the preparation of the strategic documents, organized the meetings of the group, thematic platforms, and prepared the draft documents, with the representatives of the Ministry of Environment and Spatial Planning (“Ministry”) actively involved in the expert group. For the text of the strategy, altogether four sets of comments and proposals were received from the members of the expert group and other representatives of the competent authorities in Slovenia. After submitting the documents to the Ministry in October 2023, the project team members involved in the expert group expressed their willingness to help with the final procedure and reminded the Ministry of the importance of its adoption. SFS repeatedly informed the Ministry about the importance of the timely adoption of the strategic documents; **official notes were sent** by the director in March 2024, April 2024 and again in September 2024. **The Ministry presented the documents to the Interest group for large carnivores and gathered their comments, and to the Expert group for large carnivores and already implemented corrections to the texts based on their remarks.** According to the letter signed by the Slovenian Ministry of Natural Resources and Spatial Planning on 20th December 2024 ([Annex\\_FR\\_A8\\_05](#)), the Slovenian strategic documents are expected to be adopted before the end of April 2025. On 10th of February 2025 the Slovenian strategic documents ([Deliverable, Annex\\_FR\\_A8\\_04](#)) for wolf conservation and management were released for public debate [[link](#)].

## 6.3 Evaluation of project implementation

### 6.3.1 Methodology applied

The development of the project actions was always undertaken making reference to the most up-to-date technical approaches and ensuring full consideration of any reference produced by other projects. The best practice character of the project required a continuous review process at all stages: planning, implementation, reporting. Wolf Alpine Technical-Conservation Group (WATCG), responsible for the implementation of A, C and D actions, the Wolf Alpine Communication Group (WACG), responsible for the implementation of E actions, the WolfAlps Administrative Group, and the “International Scientific Committee” (ISC) (see details in Ch. 6.1.1) ensured this process routinely, providing a constant reference and constructive comments, in order to improve documents of procedures when needed. This approach was facilitated a lot also thanks to the smart shared-online tool of the **Action Plan (Deliverable, Annex\_MR1\_A1\_5)**, and final version **Deliverable, Annex\_FR\_F1\_03**).

Since the beginning of the project, the overall strategy consisted in working in every aspect of the project **as an international working team engaged in overcoming the administrative borders of each European Country involved in the alpine wolf population, addressing threat n. 1**. The approach at the population-level, is declined as a main aim in all the actions, in order to allow large-scale species management across nations, as never done before to overcome the institutional fragmentation. This strategy is totally reflected in the transboundary population-level surveillance, management and conservation of the species in the Alps. In fact, the 5 established international alpine working groups synergically coordinated a simultaneous surveillance of the wolf in each Country, according to standardized criteria and approaches for wolf population monitoring defined in “*Surveillance strategy to optimize the integrated surveillance of the Wolf Alpine Population Status*” (**Deliverable, Annex\_MR1\_A5.1\_3**). This best practice allowed a **common and coordinated evaluation of the conservation status of the wolf alpine population** in the entire alpine range and over the **7 neighboring Countries**. Moreover, this **transboundary approach** is also technically and scientifically connected to the development of **a new shared genetic technique and approaches among the alpine countries involved in the wolf population surveillance (A5.1)**, which developed some cutting-edge genetic tools for fast, reliable and cost-effective surveillance of the wolf conservation status. Therefore, beside all these valuable aspects, such as coordination, synergic collaboration and transboundary approach, the scientific approach has been granted by the work done by the experts involved in defining and implementing the aforementioned best practice. The scientific approach was then crucial in assessing population estimates (see also [\*Transboundary Monitoring of the Wolf Alpine Population over 21 Years and Seven Countries\*](#)), providing reliable data for a science-based management of the species. **Accurate estimates can ensure informed decision-making, guiding conservation efforts toward effective and sustainable management practices of large carnivores.**

The **LIFE WolfAlps EU Project** introduced the **Wolf Prevention Intervention Units (WPIUs)**, a key innovation designed to mitigate the impact of wolves on livestock breeding and reduce economic losses for breeders. This approach, developed through **Actions A2 and C1**, aims to balance pastoral practices with the presence of predators by promoting the correct use of preventive livestock defense methods. WPIUs consist of **trained local staff and technicians** who provide immediate support to breeders, suggesting effective prevention tools (e.g., electric fences, guardian dogs), strategies and offering guidance on how to access compensation and prevention funds, such as those from the **Rural Development Program (RDP)**. Over the course of the project, **43 WPIUs** were established across **Italy, France, Slovenia, and Austria**. The WPIUs worked alongside, but did not overlap with RDP measures. They collected data from each intervention in a shared database, which helped inform the development of long-term **wolf prevention guidelines**. The project adopted a **transboundary approach**, creating a **common operating strategy** for the WPIUs across all project regions, ensuring coordinated action. This international cooperation also facilitated the quick drafting of a document requested by the **European Commission** in September 2023, pooling data on wolf damages to livestock and prevention strategies. This strategy, developed through the international working group, now serves as a shared best practice for future wolf management efforts across the project area.

Through **13 training courses** and **14 workshops**, nearly **400 operators** were trained to intervene effectively in cases of wolf depredation, propose prevention strategies, and inform breeders about available



compensation mechanisms. The ultimate goal is to ensure that the WPIUs remain operational after the project's conclusion, with ongoing support from **public administrations** to guarantee long-term success.

Another methodology applied in the framework, and already tested in Italy during the previous LIFE WOLFALPS, is the **Anti-poison Dog Teams** (APDU teams). This method is based on a principle of a “**6-paws unit**” - composed by trained dog and its handler - searching for poisoned baits and carcasses. The APDU teams, regularly trained and operational in both Italy and Austria, have carried out numerous interventions, significantly contributing to **the prevention of new poisoning incidents**. This method has been widened over Italian Alpine Regions and developed also in Austria, where a new anti-poison dog unit has been established within the Project, in order to mitigate the negative impacts due to the illegal release of poisoned baits that cause wolf mortality and severe effects in wildlife communities (i.e. small carnivores and ornithological biocenosis). The overall approach of these activities is based on a **wide and periodic coordination performed mainly by CUFA in collaboration with other Bodies** (e.g., in Italy, park rangers of regional and national Parks and Provinces’ police), thanks to their experience and institutional role in contrasting environmental crimes.

**A transversal methodology** of many actions of this project **is the participatory approach, aimed to involve key stakeholders and Public Institutions and Bodies for the concrete implementation of project actions**. The following examples, not only aim to explain this approach, but highlight that the involvement and the participatory approach are needed and essential both for achieving project goals and for granting sustainability and long-lasting best practices.

The participatory approach was a paramount step **in Slovenia** where SFS (supported by UL) has been working strenuously since the beginning of the project for achieving the approval and formal adoption of the **National Wolf Population Management Plan**, involving experts from the relevant institutions that are concretely participating in the process (e.g. from the Ministry of Natural Resources and Spatial Planning and the Ministry of Agriculture), but also organizing **two thematic platforms** with a broad circle of stakeholders present, which provided positive feedback to the progress of the task (action A8). Although the adoption of the Slovenian Wolf Action Plan was delayed and despite the challenges faced, the participatory approach throughout the process, **engaging key stakeholders, including the Ministry, expert groups, and other relevant authorities, played a crucial role in fostering collaboration, ensuring that all voices were heard**.

The involvement of public institutions was crucial for achieving key objectives in the project, particularly in improving governance, such as in the strategy for managing wolf-dog hybridization. Actions A6 and C5 demonstrated that the technical support from all Italian Alpine regions, ISPRA, and other local public bodies was essential in clarifying the procedural steps needed to address the legal gaps in national legislation on wolf-dog hybridization. This collaboration also led to the implementation of measures against hybridization for the first time in the Alps, creating new task forces and coordinated intervention teams. The jointly outlined management procedure ([Deliverable, Annex\\_MR1\\_A6\\_02](#)) and increased awareness of the seriousness of wolf-dog hybridization (threat 7) facilitated additional interventions in the Cottian Alps and Lombardy Region, which were not originally anticipated by the project (details in [Deliverable, Annex\\_FR\\_C5\\_01](#)).

Similarly, the implementation of **C6.1** required the **participation of the agencies managing the linear infrastructure of the Upper Susa Valley** (e.g., SITAF, RFI, and ANAS) **to agree on feasible interventions for enhancing the area’s low ecological connectivity**. These interventions are the result of collaboration with these agencies, which have directly installed several measures. For instance, METO was constantly supported by ANAS for the set-up of luminous warning signs, blue reflectors, and continues to manage the electronic variable message boards on state roads. Also, SITAF supported METO by installing fences along the “Oulx Circonvallazione” freeway interchange and upgrading two aligned underpasses in Oulx following the planned interventions ([Deliverable, Annex\\_MR1\\_C6.1\\_04](#)). Additionally, the **networking** workshops and field inspections conducted with **LIFE SafeCrossing** proved useful for adopting the awareness road sign “*La velocità uccide*”, which was borrowed from that LIFE Project. Therefore, the involvement of these Agencies was essential in the process in defining the mitigation measures with long lasting impacts. We consider that the setup collaborations will continue allowing the opportunity of raising awareness among technical staff in ANAS, RFI and SITAF, that can hopefully take into account these insights in the future, also elsewhere.

As for **C6. 2**, the participatory approach was crucial in the development of the project, as the technical content of the Environmental Impact Assessment (EIA) Handbook was initially discussed with technical managers from Italian Regional Institutions (partners and supporters of the project) during dedicated meetings. This collaborative process ensured that the objectives of the document were aligned and understood from the beginning. Moreover, the Handbook was shared again with these regional and local institutions to serve as a reference tool for potential adoption in local-scale governance, emphasizing the importance for wolf conservation.

**The participatory strategy was also declined through the involvement to A5.1 Action workshops and training courses of 5574 participants from Public Institutions** (e.g. park rangers, technicians, Carabinieri Forestali, veterinarians, staff belonging to hunting districts) and at least **657 volunteers who** contributed to field samples collection in the wolf surveillance activities (A5.1 and C4 Actions). These experiences helped develop specific long-term knowledge/skills of a highly coordinated network, granting **sustainability to surveillance activities**. Moreover, key stakeholders, such as breeders, were actively involved in livestock damages preventive activities (Action C1). This collaboration was central to the implementation of damage prevention actions, with the direct involvement of breeders in **48 training sessions and on-field consultations on the correct use of protection systems**. **50 meetings and workshops were organised for open discussions** and to disseminate the correct implementation of preventive measures. Similarly, **714 hunters throughout the Alps** were actively involved in the predator-prey-hunter dynamics evaluation in the Actions A4-C3, also attending meetings and discussions. 65 meetings were organized, holding great significance, in particular in France, where OFB met opposition in the first half of the project in implementing the A4/C3 Action, then solved thanks to meetings and discussion with hunters (see chapter 6.2).

The participatory approach was made even more explicit with the planning of **42 Thematic Dialogue Platform meetings** for a total of 11 Platforms and the over 150 **meetings on specific issues** with the interested stakeholders. These events involved all key stakeholders, with over **3.900 participants**, and were conducted with a participatory approach, as presented in Action E3, to discuss on a local scale the issues more relevant for each category, to examine possible solutions, to keep people closely informed about our project, and the overall importance of nature conservation, LIFE program and Natura 2000 Network.

A highly innovative tool for the involvement of stakeholders is the Stewardship Program (see the description of the E2.1 action, Ch. 6.1). **Stewardship is a strategy to involve stakeholders** (breeders, shepherds, hunters, recreationalists, environmentalist) in the conservation of nature and landscape, through the implementation of voluntary agreements that share with the project the responsibility of taking care of one particular aspect of the coexistence between man and wolves on the Alps. Stewardship offers a means of extending conservation practices beyond the project extent, implementing at the same time a sense of co-responsibility and co-ownership of the “wicked”/complex environmental challenges that LIFE WolfAlps tries to address. Stewardship can be translated as a way to make people take care of the earth. Through this initiative the project got **32 Stewards throughout the Alps so far, belonging to different kinds of stakeholders (e.g., breeders, farmhouses, hunters, environmentalists and nature guides)**.

**Our project exploited very much the use of the project website and social media.** However, independently from the implemented tools of communication and awareness-raising, one of the main aims of the LIFE WolfAlps EU was and is to spread science-based information, based on objective data, for the demystification of wolf in the culture, through the dissemination of knowledge, but also through the fact checking and, eventually, debunking wrong and fake news (activity implemented in the action E2 with the “Alpine Press Review”, for details see Ch 6.1), promoting and stimulating a critical sense in the public. In this frame a project outcome is represented by the debunking protocol ([Deliverable, Annex\\_MR1\\_E2\\_12](#)) which purpose is to give the LWA EU project communicators some basic indications and tools to be able to dedicate themselves successfully to fact-checking and debunking on large carnivores. The guidelines provide tools, techniques and step-by-step guidelines to identify and debunk fake news.

## 6.3.2 Results achieved

All the **expected results were achieved**, in some cases **with several replicates and additional outcomes** not planned by the project due to the constant collaboration with 119 Supporters among national, regional and local institutions and networking with other projects and realities in Europe. These results are described in **detail in Chapter 6.1**. (see the description of each action of chapter 6.1 for details, and the detailed Tables at the end of each Action).

The Action Plan (**Deliverable, Annex MR1\_A1\_5**), defined as a shared among the Beneficiaries Google sheet, provided a very smart and dynamic electronic support to easily follow the entire project progress and implementation and allowing the effective coordination of the whole ongoing project. **The final list of Deliverables** can be found uploaded in Butler Portal. Overall, we met all the main goals, with the **Preparatory actions totally achieved** (with only exception of A8, as discussed in chapter 6.2) and **the Concrete, Communication and Assessment Actions** (C, E and D actions) have been fully implemented, despite the project came across the very challenging historical period of **Covid-19 Pandemic causing limitations for about 2 years**, (details are described in MR1 and MR2). The severe restrictions imposed negatively impacted the project, above all slowing down the finalization of A Actions. Nevertheless, since 2022, we have effectively reacted at various levels, and dealt with this challenge in a synergistic and coordinated way, **overcoming it by compensating limitations and speeding up the achievement of the goals**. This prompt reaction provided satisfactory results, replicates and additional outcomes, **ensuring effectiveness, amplifying the impacts and the visibility of the project**, and also of the LIFE Program.

The most relevant project amendment **to the Grant Agreement (Amendment Request n. 1, which has included UNITO as 20 project Beneficiary)**, is granting high-quality level of Technical and Scientific coordination in support to the Coordinating Beneficiary (see Ch. 4 for details in changes, as well as each single Action description in Ch. 6.1.26) which is highly pertinent to the mandate of the Institution, and the scope of the project is being totally confirmed and enhanced. Actions A4, C3, C5, A2, were partly modified for more efficient achievement of the goals, or largely increased impact of the Action.

The greater results achieved are overall summarized below.

Key coordination efforts aimed at reducing managerial fragmentation (threat 1), started with the establishment of some international coordination groups, including an **International Scientific Committee, the WolfAlps EU Steering Committee and Wolf Alpine Communication Group**. These groups were created with at least one representative per Partner and per Alpine Country. This approach, allowed us to create (at the beginning of the project) and consolidate (in the last part of the project) a multidisciplinary and international working team collaborating under the same shared value of *improving coexistence between wolves and human activities at the alpine population level*, and **able to cooperate beyond the project end**.

One of the key outcomes was the establishment of **strong international coordination for wolf population surveillance across Alpine countries**, significantly improving cross-border cooperation. The action A5 promoted the standardization of monitoring techniques, creating a unified approach for wolf surveillance across national borders, which has been essential for the accurate assessment of wolf populations, for the first time, at the alpine population scale. The “*Surveillance strategy to optimize the integrated surveillance of the Wolf Alpine Population Status*” (**Deliverable, Annex MR1\_A5.1\_3**), defines **the integrated surveillance of the wolf alpine population over 7 Countries** (being performed in Action C4). This strategy provides parameters to be monitored over time, the spatial extent of the study area and the time scale of the international wolf alpine monitoring for implementing a population-level surveillance, as suggested by the Guidelines for Population Level Management Plans for Large Carnivores in Europe. **This strategy has been essential for the accurate assessment of wolf populations**, in fact, the project provided an update on the status of the wolf in the Alps at population level through a strong coordinated and international cooperation approach, which permits: 1) the evaluation over time of its management beyond the boundaries, 2) the decrease of the institutional fragmentation in wolf monitoring (**Threat 1**). Thanks to this action **a very strong (and long-term) international collaboration and coordination has been set-up** in the framework of the International Scientific Committee for Wolf Monitoring (alias, Wolf Alpine Group - **WAG**), through which standard **methods in collecting wolf signs in wolf alpine population over**

**countries within the same international monitoring strategy have been adopted, and will be use also for the long-term, after the end of the project.** This exceptional monitoring work and transboundary collaboration also originated in an important scientific publication ([Annex\\_MR2\\_C4\\_03](#), see [Transboundary Monitoring of the Wolf Alpine Population over 21 Years and Seven Countries](#)), and has been considered also in the Balkan-Dinaric Platform as an example of best practice in monitoring for other transboundary populations. Presentations of this work also reached the plenary talk of the World Wolf Symposium, again being considered one of the most successful examples of transboundary monitoring of a wolf population worldwide ([Annex\\_MR2\\_E1\\_10](#)). **The WAG organized regular periodic workshops to adapt methodologies and enhance international coordination among the seven neighboring Alpine countries.** An added value of this group of experts concerns the inclusion of Switzerland within the group of experts in a usual long-lasting collaboration, in fact, **the last WAG meeting was just performed in September 2024 in Switzerland.** These workshops were of paramount importance for the realization of the annual reports at the international scale on the alpine wolf population (in connection with C4) and fundamental to reinforce coordination among the alpine 7 countries for maintaining a transboundary wolf population monitoring also in the future beyond the Project.

The project provided many training opportunities for thousands of operators, then involved in surveillance activities throughout the alpine region (mainly to public institutions, e.g rangers, forestry officers, wildlife vigilance officers, technicians, veterinary, biologists etc, but also belonging to hunting districts and NGOs). In the framework of action A5, **5574 participants were trained through 123 workshops and 12 field courses across four countries, improving the capillary organization of the wolf surveillance, almost doubling the expected results.** These activities not only improved professional skills but also increased awareness and engagement in wildlife conservation efforts, and led to the consolidation of the “Wolf Network of operators”. **This Network of people is locally coordinated and represents one of the most important successes of the wolf monitoring program,** being the real strength for conservation of biodiversity in the Alps for the long term, and therefore maintained in the future as a heritage of this LIFE Project.

Moreover, in Action A5.2, a new genetic method has been successfully developed for wolf monitoring across the Alps. The **"Genetic Wolf Alpine Group" (GWAG)** was established and coordinated by UL **in collaboration with the Scientific Committee, bringing together genetic laboratories that have previously worked on wolf monitoring in the alpine region.** This group was officially launched during an online workshop in November 2020, where the *"International Genetic Protocols for Cost-Effective Monitoring of the Alpine Wolf Population"* ([Annex\\_MR1\\_A5.2\\_2](#)) were agreed upon. Following this, UL developed and optimized laboratory protocols for a new genotyping technique based on HTS of microsatellites (STR). In April 2023 and in March 2024, training workshops were held at the University of Ljubljana to teach GWAG laboratories how to use the new method. After the development of the method, UL started applying it for real-world monitoring of wolves, switching to this method in Slovenia during the monitoring season 2022/2023. Genotyping success rate of over 80% was achieved. A similar switch has already been done by Switzerland and Croatia, and we are applying it also in smaller-scale projects in Romania (Transylvania) and Slovakia (High Tatra Mts.). Most laboratories dealing with analysis of wolf samples from the Alps took part in the training provided through the LIFE WolfAlps project, offered in two stages, and we also applied the method to a subsample of genotypes shared by the genetic lab in charge of the LIFE WolfAlps EU genetic analysis in Italy for the western part of the alpine population in Italy (National Genomics Lab, Montana, commissioned by APAM). There are initiatives underway beyond this LIFE project to standardize entire wolf genetic monitoring in the region around this method. We have reanalyzed with the new approach a subset of wolf samples already genotyped with the standard method by other laboratories of the Genetic Wolf Alpine Group. This will allow us to compare method performance to further inform its implementation by these labs and to start re-genotyping legacy wolf samples in other parts of the Alps to ensure data continuity. Beside the Slovenian and Swiss laboratories that are routinely using the new method, the Natural History Museum in Vienna (Austria), the Edmund Mach Foundation in Trento (Italy), and Senckenberg Research Institute (Germany) have started implementing the method in their genetic laboratories. In addition, these laboratories are coordinating the establishment of an international genetic database for wolves, which is currently under development with financial support by the ARGE ALP initiative. Therefore, the adoption of **the new technique may thus facilitate coordinated large-scale data management among different laboratories internationally.** This standardized approach



improves data comparability and facilitates cross-border monitoring, and significantly enhances the reliability and efficiency of wolf genetic monitoring across the Alps.

The actions dealing with **livestock damages prevention** A2 (preparatory, concluded in June 2022 with a small delay due to Covid- 19 Pandemic) and C1 (concrete, concluded in September 2024), have been aimed at reducing the conflicts between wolf and livestock husbandry (**threat 3**), by implementing a strategy to prevent wolf damages on livestock. This strategy is defined as “**WPIU operating strategies**” and is aimed to provide support and **recommendation for optimal preventive strategies** (see [Annex\\_MR1\\_A2\\_02](#) and [Annex\\_MR1\\_A2\\_08](#)). **The 43 WPIU teams, trained** in the framework of the action A2 (overcoming the 23 expected ones), have been giving continuous support to breeders and shepherds, performing several interventions over the Alps and suggesting tailor-made combinations of preventive measures and their correct use. In this action, 13 training courses and 14 workshops have been organized to train 351 operators of WPIUs. The WPIUs, **working in a complementary manner to RDP measures** in order to favour a process of synergy avoiding overlapping, performed a total of **1869 interventions** across Italy, France, Austria, and Slovenia, **significantly exceeding the project’s target of 812**. Within the project timeframe, the **WPIUs provided support to 1077 breeders and shepherds** and preventive tools were distributed, including 375 electrified fences and various other devices. Observations highlighted a reduction in livestock attacks, with cases dropping from 80 to 39 between 2021 and 2023 for a key flock in Italy and a decrease of affected animals by 95.9% in Slovenia. Workshops and educational events, including GPS tracking and thermal camera monitoring, in France, provided practical insights into wolf behaviour and the effectiveness of preventive systems, enhancing breeder compliance with protection measures.

A centralized database of WPIU interventions was created and maintained with data used to assess the effectiveness of interventions in reducing wolf-related livestock losses. These objective data are the basis of the Deliverable “*Final guidelines for the long-term implementation of Wolf Prevention Intervention Unit and effectiveness of mitigation measures to reduce wolf damages on livestock*” [Annex\\_FR\\_C1-D2\\_01](#), providing solid indications about the WPIU activities and successes. Additionally, long-term guidelines for a cost-effectiveness assessment of WPIU implementation at the national level are underway.

Within the Action C1 we gave **great importance on raising awareness and supporting local communities through numerous educational workshops and information campaigns targeting both farmers and the general public**. Specialized sessions were organized to train farmers in the use of livestock guarding dogs (LGDs) and electric fencing systems to reduce wolf-related damages. Additionally, a volunteer group called “*Help Shepherd*” was established in the Lombardy Region (where recolonization is still ongoing) for supporting breeders in prevention measures installation.

To assist policymakers, a comprehensive report on the effectiveness of prevention systems in the Alps has been prepared, providing updated data and practical recommendations. In fact, in synergy with those from other LIFE projects, we provided quantitative data about the efficacy of prevention systems in the Alps by drafting the document titled “*The efficacy of prevention systems in the Alps in the framework of the LIFE projects*” ([Annex\\_MR2\\_C1\\_01](#)), in response to the Commission’s invitation to submit up-to-date data on wolf population and their impacts. **This technical report highlights that it is possible to reduce the impact of wolf depredation to economically acceptable and socially tolerable levels, through the appropriate adaptation of breeding systems and the correct adoption of preventive measures;** the experience gained from the above-mentioned projects shows that a variety of solutions, if correctly used, are available to reduce the impact of wolf depredations and local conflicts, but they need to be adapted to specific local contexts.

We consider very positively the commitment for dealing with the wolf-dog hybridization in the framework of the action A6-C5 aimed **to define and implement mitigation measures against this new threat for the alpine wolf population (Threat 7)**. Despite the project planned interventions in the Apennine Corridor, the project proposed to implement the additional intervention (not originally planned) in the Cottian Alps, where two unexpected hybrid packs were detected in the project underway (the first in 2021 and the second in 2022). Within the implementation of Action C5, 9 interventions of hybridization management were addressed towards hybrid packs according to the strategy defined in A6 “*Long term shared management of hybrids at international alpine scale*” (**Deliverable, [Annex\\_MR1\\_A6\\_02](#)**). **These interventions led to the removal of 4 hybrid wolves in the Apennine Corridor (n=1) and in addition in the Cottian Alps (n=2) and in Lombardy Region (n=1)**. Full details of the action are described in the **Deliverable, [Annex\\_FR\\_C5\\_01](#)**.



This experience highlights that the Project provided opportunities and supporting tools for improving both governance of this issue and synergy between Alpine Regions and ISPRA. Further key outcomes include the development of managerial expertise (e.g. new task forces) within public bodies, fostering long-term sustainability and adaptability.

Another result achieved by the project, although already tested but limited to Italy during the previous LIFE Wolfalps, is based on the **Operation Strategy against the illegal release of poisoned baits through the Anti-poison Dog Teams** (Actions A3-C2, Ch. 6.1). Action C2 led to significant expansion of anti-poisoning efforts across the Alpine region. Seven new Anti-Poisoning Dog Units (APDUs) were established in Italy, and the first APDU in Austria was introduced, extending coverage from Piedmont and Liguria to Lombardy, Veneto, and Austria. A major accomplishment was the establishment of effective international and national coordination in the fight against illegal wolf killings. This included partnerships with countries such as Slovenia and Austria, as well as **collaboration with Carabinieri Forestali (CUFA) and regional enforcement bodies**. The coordinated efforts resulted in **1124 inspections by Anti-Poisoning Dog Units (APDUs) in Italy and Austria**, surpassing the initial targets. This strategy has provided an operational protocol against poaching, which has also improved the opportunities of deeper environmental controls through locally trained police officers' presence and more effective coordination among Institutions involved in wildlife vigilance acting as a deterrent against many types of environmental crimes. **A specific database was created and maintained to track environmental law violations related to poaching**, constantly updated by CUFA, **and has been providing a detailed record of interventions and toxicological analyses that will support future conservation efforts**.

The LWA EU project also provided the possibility, within Action C6, to tackle a dramatic habitat fragmentation in the Upper Susa Valley, identified as a “sink” area of wolf mortality (**Treat 6**). The area represents in fact a hot-spot of anthropogenic mortality for wolves, but also for ungulates and other wildlife species, due to a dense development of linear infrastructures along the bottom of the Valley (2 state roads, highway and railway line). The mitigation measures planned and performed in the target area to reduce wolf mortality from traffic and trains are described in [Deliverable, Annex\\_MR1\\_C6.1\\_04](#), and are based on the distribution of wolf's (but also ungulates') mortality identified in [Deliverable, Annex\\_MR1\\_C6.1\\_01](#). Interventions included segments of fencing along the Railway line Turin-Modane and the Frejus Highway and the improvement of the ecological performance of some existing underpasses (with some feature of ecological suitability), for encouraging their use by wolves and other species. Overall, **4.5 km of railway and 2 km of highway are now safer after the implemented measures along the railway and the highway**. The interventions of the state roads consisted in an awareness campaign, the installation of different types of road signs (both with replicates outside the target area) and 13 km of blue reflectors. Unfortunately, the installation of 13 km of blue reflectors on state roads in summer 2024 couldn't be evaluated within the project timeframe. However, a local survey on the effectiveness of different types of road signs and a local awareness campaign showed that variable message boards had a greater impact than fixed signs, improving driver attention and reducing speed.

Since the implementation of mitigation measures in 2022, there has been **a general decline in wolf mortality from accidents, suggesting preliminary a partial reduction in the impact of linear infrastructures**. Net of these evaluations, mitigation measures implemented in the sink area contributed in decreasing wolf traffic mortality of about 70% of a section of about 9 km railway and highway (for details see [Deliverable, Annex\\_FR\\_D3\\_01](#)). A further remarkable outcome of this action is the long-lasting setting up of the collaboration between the METO-APAC team and the Agencies managing the linear infrastructures (RFI, ANAS and Sitaf), in fact, the interventions were carried out thanks to their support, authorizations and workforce. Due to these collaborations, road/railway national Management Bodies became more aware of the impacts on wolf and wildlife and **road safety for drivers and bikers has been improved**.

At a larger scale, a new tool for planners has been achieved by drafting the “*Handbook of Environmental Impact Assessment Guidelines for wolf conservation*” ([Deliverable, Annex\\_MR2\\_C6\\_01](#)), that suggests information, measures and **best practices aimed to the conservation of wolf reproductive sites**, to be integrated into the spatial planning and development. This aim is going hand in hand with wolf friendly ecotourism development, representing an economic key to supporting nature conservation, as proposed in Action C7.

The **guidelines for responsible practices** (“*Non consumptive use of wolves in tourism*” [Annex\\_MR1\\_C7\\_01](#), translated in **4 languages**), matching this goal, were provided and approved by the group of specialists of the Large Carnivore Initiative for Europe IUCN/SSC, promoting ecotourism that does not compromise wolf conservation, granting direct and lasting economic benefits for local communities. **The ecotourism activities’ outcomes (and deliverables) were almost all achieved overcoming the expected results.** We would like to highlight e.g the **large success gotten by the 91 ecotourism events** (27 additional compared to the 64 planned) involving more than 2100 people, and the **17 trainings for nature guides** (10 additional compared to the 7 expected) and the launch of [ecoesistenza.it](#) talking label, a communication tool aimed to bring out and make visible on a map the informal but existing and solid network of wolf-friendly ecotourism producers who actively support coexistence. All the **communication, dissemination, education and awareness-raising initiatives met or exceeded the project goals**, reaching higher numbers than expected, thus showing great interest in the project topics and initiatives.

Within Action E1 the number of expected public events is four times higher than expected (**223 total events for the general public, reaching over 57.000 people**), also thanks to the requests received by project partners from local public or private institutions, associations etc. Also, the **networking activity** (workshops, meetings, conferences) **LIFE and non-LIFE projects** (about 27 networking events-meeting-workshops) yearly increased and brought to the signature of 6 Memorandum of Understanding, thus showing the constant need for the different bodies to share ideas and best practices. Also the strategy based on the “**Shared Stewardship**” (Action A2.2) worked in this direction, effectively engaging stakeholders and multiplying the impact of LWA EU communication, in fact our project already has **32 stewards among breeders, shepherds, hunters, recreationalists, environmentalists, other than the 119 supporters.** As fully described in Action E1 and in the following chapter (6.3.3), the project website was developed to be the showcase of the project, collecting in total **873 news articles published** in the different languages, also disseminated through the newsletters.

The Media Office (E2) implemented as expected the **Alpine press review** collecting a total of **4.965 articles** about the project and wolf in the Alps across all the Countries involved in the project. Still with the aim of decreasing human-wolf conflicts and promotion of coexistence, thematic platforms and meetings were planned (E3). A total of **42 Thematic Platform meetings dedicated to key stakeholders** were organised, **involving over 1.200 people.** As discussed in the Platform’s proceedings, it was possible to identify 10 common issues that were addressed at most of the meetings, identifying areas of common interest and providing a solid foundation for developing more effective and targeted management strategies for the coexistence.

In addition, **157 meetings** on specific issues were organised by all partners to discuss, according to the local context, urgent issues and needs of the participants, **reaching over 2.700 people** and involving all target stakeholders and others non originally planned in the project, such as local or national public institutions, local associations for land development etc. The number of meetings exceeded expectations, showing the great need for confrontation and discussion by stakeholders through a multidisciplinary and integrated approach.

The **exhibition** opening in the three different locations took place as planned with over 50.000 people reached, also thanks to the several initiatives that the partners organised to attract different types of audience. The exhibition aroused public interest and received positive feedback, as shown in the dedicated web page (<https://www.lifewolfalps.eu/en/nella-mente-del-lupo/>).

As for the **Thematic Conferences** (Actions E6), the different topics addressed were able to involve different types of audience, and the now well-established on-line mode (with simultaneous translations) increased the chances for the public to assist and interact with the speakers and the project staff (70% of the participants were on-line). Public events, networking conferences, networking workshops and the “Through the eyes of the wolf” exhibition **reached altogether an audience of 120.267 people**, (considering also all the online viewers of public events, most of them are hosted in other platforms and not on those of LWA EU).

The implementation of the **educational initiatives** (E4) also exceeded expectations, having reached all targets, involving in total **9.148 kids, 916 university students**, and doubling the expected number of trained teachers (796 reached, 300 expected), also thanks to additional initiatives. As an example, the number of

“Wolf in a backpack” activities in Slovenia was doubled with additional dissemination events (31 in total vs 10 expected), as well as the “More experts in the classroom” activity (114 concluded ad 50 expected) and the UniversiWolf courses with 16 events (6 planned).

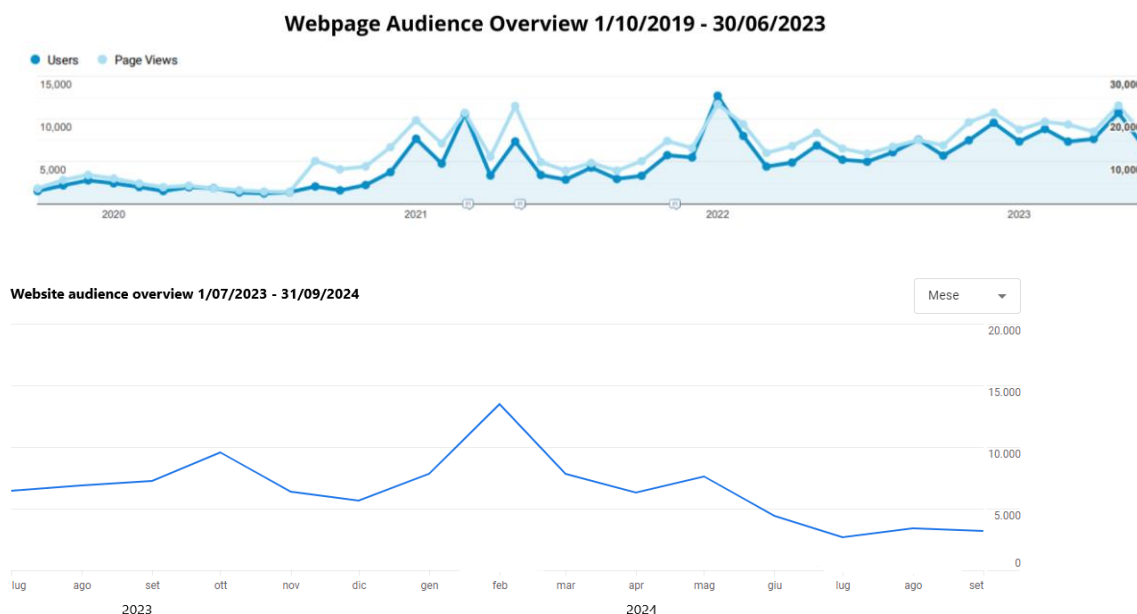
**Thanks to unforeseen laboratories, “I lupi delle Alpi” book presentation 355 children were reached,** and 441 kids experienced the “The wolves’ tree” kamishibai theatre laboratories that were initially not foreseen. and in addition Stelvio National Park created a new kamishibai dedicated to younger pupils reaching over 500 kids.

**About 10.000 kids have been actively involved** all over the Alps (5000 were expected) in the framework of the **Young Ranger Program** (Action C8), becoming “biodiversity conservation ambassadors”. The initiative aroused great interest among the institutions and the public. In fact, at the end of the project the network included **40 Parks/Museums/Wildlife**, 11 more than initially expected, **163 events to involve local kids** and **146 Young Ranger celebration days** were realized (12 expected). The **success met by the YR program** together with the **implementation of a school version** of the program by APAM grants its continuation also after the end of the project providing sustainability to the project.

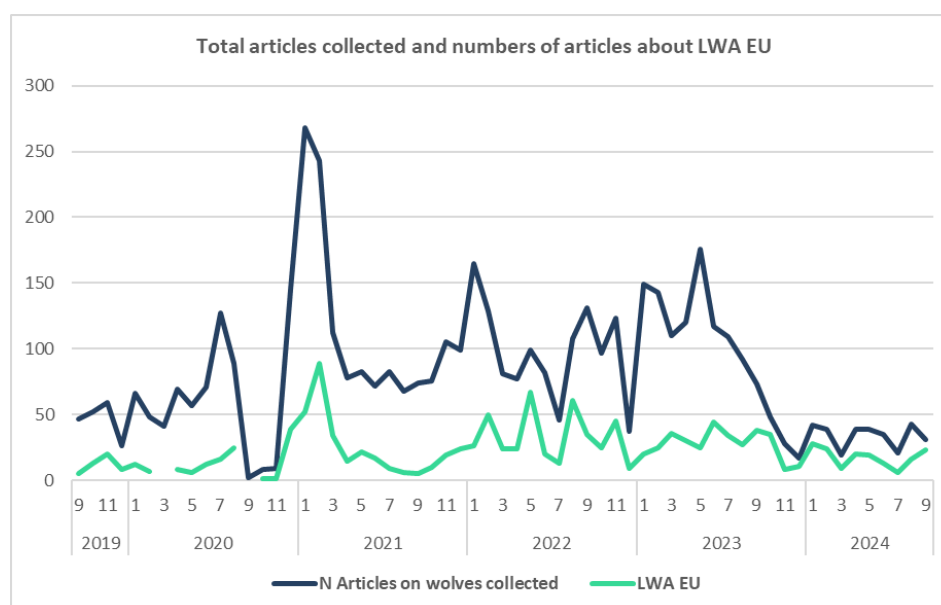
### 6.3.3 Effectiveness of the dissemination

As fully describe in Chapters concerning Action E, **the project is constantly increasing its visibility in the media and has been featured 1.430 times in newspaper articles, magazines, radio and tv programs at national and local level** (the appearance doubled with respect to MR1). **The topics addressed in this LIFE project concerning coexistence and mitigation of the conflicts between wolf presence and human activities are of great interest for the larger public and stakeholders, and this involvement is reflected in the interaction with the project dissemination tools and initiatives.** Indeed, the project web page and social media have become visible and are constantly growing with the audience (see Action E1) thanks to the implementation of concrete actions in the last years. The impact of the dissemination activities on public opinion is, however, difficult to quantify and may be done only with the comparative analysis of human dimension before and after the project (D1). A good proxy for measuring the effectiveness of dissemination is to analyse the number of people following social media and visiting the project web page (E1) as well as data collected in the press review (E2).

**From the start of the project, 5.097 new likes were reached for the Facebook page, reaching a total of 13.697 likes.** In part, the project Facebook page inherited a good portion of the web audience from the previous LIFE, but the audience visibly grew from the beginning. **The Instagram page reached a total of 4.432 followers, starting from 0 in 2019, while the LinkedIn account reached 828 followers, also starting from 0 in 2019. The number of page views on the website has been increasing from 2021, reaching 367.271 users** (see charts below, since 07/2023 the Google Analytics platform structure has changed and data are no longer available for the whole period in the same graphs). **46% of users find the project website through organic search, while 19% are redirected from Facebook. In the whole period, the coverage (i.e. the number of people who visit the page) of the Facebook page was 561.727 people, while for Instagram the coverage was 43.428 people. The YouTube Channel reached 139k views.**



Although, there is no quantitative measure for the effectiveness of the public events (223 in total) in disseminating the results and contents of the project, we observe a high level of interest among the public, in number of participants, in the discussion following the events, and in the explicit request to plan another similar event. Public events reached over 57.000 people (considering both participants and online views), and more than 9800 people were reached by the international conferences and networking workshops (considering participants and online views).



**The project was mentioned in the press 1.367 times**, 15% of these articles spoke in a positive way about the wolf, 69% were neutral and balanced in reporting all the information, the remaining 16% used negative terms about the wolf. 220 articles were entirely dedicated to the project activities, 87% were neutral, the remaining 13% positive. The number of news articles mentioning the project follows a trend analogous to that of the news about wolves, although less numerous. A positive feedback is also when the press corrects fake news because of a **debunking** made by the project. In January 2022 in Trento province, news disseminated by local media-generated panic in the public, having also a huge resonance in social media. A dog, taken in the mountain without a leash, was predated by the wolves, not so far from his owner. When the owner reached the dog, he found the pack that was eating it. The pack first moved away, then, according to the press, encircled the man, staying around him and the dog's corpse for more than half an hour. Only when help arrived, the wolves moved away. MUSE communication staff interviewed the dog's owner

directly, who explained that only one wolf had returned toward the carcass, and also that he had become very agitated by the situation, but the wolves had never tried to attack him. Although no press release was made, but only a news story on the website, several local media outlets picked up on the project version claiming that it was the most reliable source of information.

Another case of effective debunking was in response to a defamatory television broadcast against the project and LIFE funding in general. In May 2023, an Italian private network aired a report against the wolf, LWA EU and LIFE funding in general. The service was full of false news, both about the wolf (e.g. it mentioned an EU-funded reintroduction) and the project. The communications team set up a counter-information campaign, debunking all fake messages in the video. The debunking was picked up on the web by 30 other pages and the letter sent to the editorial team served to have the broadcast removed from the TV station. Another example of debunking occurred in January 2024, again in relation to a news article from Trentino, in Val di Fassa. A video of a wolf walking in broad daylight along a crowded ski resort, approaching a woman with a stroller went viral on social media and in the news. After verifying that it was a wolf, reliable testimonies from people at the scene and forest rangers from the province of Trento were gathered to quickly produce an article explaining the animal's unusual behaviour and providing information about *bold wolves*. Several outlets, including a national newspaper and a national radio broadcast picked up on the article.

**Workshops for journalists** reached 390 journalists and had several positive feedbacks, and one of the attendees requested an interview in a podcast dedicated to the debunking of fake news and false myths about wolves, and an invitation to a workshop for journalists organized by Ordine dei Giornalisti Emilia Romagna, outside the project area. **Debunking was a topic that was really appreciated by the public. The handbook for debunking, "Lupus in Bufala" has been reviewed and cited by 17 press articles, including 4 national ones, 2 podcasts, and an interview on one of the most important television programs on nature, on the national channel.** At the project mailbox, we received several requests for hard copies of the document and good feedback from individuals and associations.

The **immersive exhibition** (E5) used an innovative approach that combined art, technology and nature communication and was visited by over 50.000 people in 3 different locations. Many visitors reported that they felt more compassionate toward the wolf after the experience, although the video in itself has no dialogue or comments. This means that images can reach emotions and make people think from a different perspective. Also openings and collateral events were useful events to attract the local press and create opportunities for experts to disseminate information on wolf biology and coexistence. Some feedback received from the visitors are reported on the [webpage](#). The public-private partnership formula used for the production of the book "**I lupi delle Alpi**" was really effective in increasing the project's visibility and vehiculating educational information on wolf biology at the national level. The 6.000 copies produced within the project budget and distributed among partners and supporters were used by partners in educational activities and handed out to relevant stakeholders. At the same time the partnership with the publisher allowed us to perform several educational activities and dissemination events beyond the project areas, and also to participate in relevant international fairs and festivals. The extra results were a total of 15 book presentations that reached 355 children and three events for the general public, reaching 125 people in attendance and 472 views of the speech on the Festival Letteratura YouTube channel.

**Podcasts** are increasingly popular worldwide and are innovative tools to reach a larger audience. They are online, can be downloaded, listened to in any environment, and available worldwide. In the frame of LWA EU project, three podcasts (in Italian) have been produced and will remain available online after the project closure. The three products differ in their communication targets and strategy. "Sei il lupo" uses storytelling (a wolf narrating its own life) to reach teenagers and young adults and provide them with knowledge on wolf ecology. The podcast "Intrecci invisibili" is an audio documentary for the general public aimed at exploring certain problematic aspects of coexistence with wolves, such as damage prevention and fear. Finally the podcast "Il lupo ieri e oggi" is aimed at younger generations and reflects on the importance of biodiversity. Altogether the three podcasts provide an opportunity to enlarge the LWA EU project audience and strengthen the awareness campaign.



### 6.3.4 Policy impact

**The LIFE WolfAlps EU project tackled a very actual and urgent problem, that is the management of conflicts between different stakeholders groups and the presence of the wolf at the alpine population level.** This crucial issue not only affects wolf conservation, but also politics and economics, with implications in a wide and international area of Europe. Therefore, the Project has actively involved many Public Entities directly concerned in administration-legislation of wildlife conservation, both Beneficiary and project supporters (e.g Regional and National Authorities, Ministries, Environmental Police, local Bodies, etc.). This aspect implies that the policy process undertaken by the project can be favoured and accompanied by the project' actors, providing also an increase in effectiveness of the governance and an improvement in Habitat Directive implementation in the Alpine Countries, despite increasing political opposition towards large carnivores' conservation.

We considered that the prevention of wolf depredation on livestock was one of the main issues in the framework of the coexistence between wolf and human activities. After an *evaluation of the initial situation*, focusing on interventions and ad-hoc optimal preventive strategies in the Alps at international scale (provided in connection with the WISO platform of the Alpine Convention) (see [Deliverable, Annex\\_MR1\\_A2\\_02](#)), the so called "*WPIU operating strategy*" ([Deliverable, Annex\\_MR1\\_A2\\_08](#)), developed in Action A2, has become a best practice implemented over the Alps at the international level. We therefore believe that the WPIU strategy represents a keystone as an effective prevention activity to be further promoted and disseminated.

**In September 2023, the LIFE Wolfalps EU project provided important feedback to the European Commission drafting a document in response to the EU Commission's invitation to local communities, scientists and all interested parties to submit quick and up-to-date data on wolf population and their impacts.** These quickly provided documents, both of the wolf population status and presence at the alpine level, and on the effectiveness of livestock protection systems collected within the framework of LIFE project activities dedicated to large carnivores in the Alps, proved useful in the decision-making process. **In particular by summarizing the livestock protection support activity carried out in 4 different LIFE Projects, in 4 different countries and the main results obtained in terms of success in decreasing wolf damages,** giving advice on the best practices to be followed for protecting grazing animals. The experience gained from the above-mentioned projects, together with other scientific publications on this topic is encouraging and shows that it is possible to reduce the impact of wolf depredation to economically acceptable and socially tolerable levels, through the appropriate adaptation of breeding systems and the correct adoption of preventive measures. **The evidence available indicates that it is feasible to maintain traditional economic activities in tandem with long-term wolf conservation in the Alps, particularly important for policy makers.**

A relevant initiative undertaken in the framework of the action A3 is the "*Operating Strategy for the Creation of a Central Structure to Support and Coordinate Environmental Police Forces in the Fight Against Poaching and the Poisoning of Wolves*" ([Deliverable, Annex\\_MR1\\_A3\\_2](#)). The strategy has been providing significant policy impacts aimed at **enhancing the response to environmental crimes, particularly illegal poisoning, and improving wildlife protection.** By fostering greater coordination among law enforcement agencies, especially the Carabinieri Forestali, the strategy ensures more efficient and aligned efforts across national and local levels. It emphasizes a shift from reactive **measures to proactive prevention, including the cleanup of poisoned areas and the detection of additional toxins, supporting long-term deterrence** and broader conservation objectives.

The strategy also relies on data-driven approaches to target specific perpetrators and critical areas, ensuring that resources are allocated effectively. This targeted methodology enhances the impact of enforcement efforts and **helps address the root causes of environmental crimes.** Additionally, the operational protocols established under the strategy strengthen the legal framework, enabling judicial authorities to respond more efficiently to poisoning cases and facilitating smoother investigations and ultimately contributing to stronger enforcement of environmental laws. **The coordination related to environmental judicial policy was implemented at international level by establishing a connection and collaboration with police officers from the alpine countries (CUFA, Austria and Slovenia Police Corps) and EUROPOL,** that contributed to implement an international cooperation useful for set up a strategy at

international scale regarding environmental crimes investigations through the international network EnviCrimeNet thanks to the partnership of Arma dei Carabinieri (Ministry of Defense).

The guidelines “*Long term shared management of hybrids at international alpine scale*” ([Deliverable, Annex\\_MR1\\_A6\\_10](#)) are the result of a common effort staked by the Italian Alpine Regions that, guided by ISPRA and the LIFE Wolfalps EU Technical Group. The document indicates **the process for the implementation of the management of hybrid individuals** within the Italian Alps, in line with the national and European laws (Berna Convention). Although these guidelines were drafted on the path of the guidelines for hybrid management provided and adopted in the Apennine context by the LIFE10 NAT/IT/000265, the final outcome provides strongly applicative and operational tool in the framework of the alpine regions, inserted in a context in which national regulations do not yet offer clear answers for the management of hybrids. This Policy provided a strategy amplifying its impacts both in the Cottian Alps and outside the project area, in fact the Region Friuli Venezia Giulia in 2021 addressed the same threat in the hybrid pack detected in this Region ([Annex\\_MR1\\_C5\\_1](#)). **The application of this policy already led to the sterilization of 4 wolf-dog hybrids.**

Another relevant policy impact that will be provided at the European level are the results of the national wolf monitoring carried out synergically by the Alpine Countries involved in the project, that agreed to synchronize the sampling of the whole wolf alpine population (during the winter 2020-2021). **This international collaboration aimed to update the status of the species, in the documents to be drafted both at the transboundary Alpine level and at the European level**, (see “*Surveillance strategy to optimize the integrated surveillance of the Wolf Alpine Population Status*”, [Deliverable, Annex\\_MR1\\_A5.1\\_3](#)). This document led to the achievement of “*The evaluation of the alpine wolf population at the international scale 2020-2024 over 7 Countries: The integrated evaluation of the status of the wolf Alpine population from 2020/2021 to 2023/2024*”, by joining transboundary and standardized monitoring information coming from the surveillance activities done from 2020/2021 to 2023/2024 ([Deliverable, Annex\\_FR\\_C4\\_01](#)). The 2020-2022 **International Alpine Annual Report** ([Deliverable, Annex\\_MR2\\_C4\\_1](#)) **was presented and endorsed as an official document by the WISO working group of the Alpine Convention** on the 16<sup>th</sup> of October 2023, acknowledging its importance.

The document “*Management of bold wolves at the alpine scale*” (Action A7) adopted the indications, definitions and criteria provided by the Policy Support Statements of the Large Carnivore Initiative for Europe (LCIE), defining some best practices for bold wolves management at the alpine scale (details in [Deliverable, Annex\\_MR1\\_A7\\_2](#)).

Further policy implication concerns the **guidelines for responsible practices** (“*Non consumptive use of wolves in tourism*” [Annex\\_MR1\\_C7\\_01](#)) **provided in the framework of the wolf friendly ecotourism development** (Action C7), representing an economic key to supporting nature conservation. These guidelines, aiming to promote ecotourism that does not compromise wolf conservation, granting direct and lasting economic benefits for local communities, were approved by the group of specialists of the Large Carnivore Initiative for Europe IUCN/SSC and translated in 4 languages.

The “*Handbook of Environmental Impact Assessment Guidelines for wolf conservation*” ([Deliverable, Annex\\_MR2\\_C6\\_01](#)) aimed to promote wolf conservation through the implementation of best practices for preserving the wolf ecological needs, particularly considering the breeding sites, in compliance with European Dispositions. **The Handbook is addressed to managers in land-planning**, providing tools and suggestions for a better implementation of the Habitat Directive, but **it is also the outcome of an intense work table involving the technicians of the Italian alpine regions**. It was disseminated through educational seminars in the alpine regions.

We also consider the coordinated work done in drafting and sharing the “*Strategy of wolf management in Slovenia*” (Action A8) as a relevant policy impact provided at Slovenian national scale. Even if it is the result of a challenging process, it represents a policy **held with a wide participatory approach based on the creation of a working group** made of experts and national Institutions and by creating **2 Thematic Platforms** (see chapter 6.1). This approach led to the preparation of **a shared and discussed national action plan** with concrete measures and financial projections, thoroughly revised by the Slovenian Ministry of Natural Resources and Spatial Planning.

## 6.4 Analysis of benefits

### 6.4.1 Environmental benefits

One of the main threats addressed by the project since the beginning is identified in Threat # 1 "conservation and management fragmentation". Important large-scale impacts have been provided in **creating a cohesive international group involving 20 partners and 117 Supporters who developed 1. coordinated strategies, guidelines and protocols** (Deliverables of Action A2, A3, A4, A5, A6, A7), 2. comparative analysis on the alpine scale relevant to the proper implementation of the C Actions (Deliverables of Actions A2, A5, A6), 3. coordinated communication activities (Deliverables E1, E2, E3, E4), and 4. significant feedback to the European Commission on common best practices applied at European alpine scale. In fact, the organization of the global implementation of the Project LIFE WolfAlps EU, built on a shared and coordinated program, implemented by the various Italian, Austrian, French and Slovenian partners and supported by other Alpine countries such as Switzerland and Germany, is the first objective achieved to support the conservation of the wolf population in the Alps.

An overall environmental issue coped with the project consists in mitigating the conservation threats for wolves, mainly connected to challenges in coexistence with human activities (Threats n. 3, 4, 5 "Conflicts with livestock husbandry, conflicts with hunters, social conflicts"), which are often sources of direct persecution.

The implementation of preventive methods and interventions as described in Action C1 (and discussed in Ch. 6.3.2) **mitigated the conflicts with breeders/shepherds** (Threat # 3 "Conflicts with livestock husbandry") who are impacted by the wolf presence. In fact, the activity of support provided by the WPIU teams was also aimed to improve tolerance towards the wolf and reduce social and human-wildlife conflict, **spreading and improving the correct use of preventive systems**, as demonstrated by [Deliverable, Annex\\_FR\\_C1-D2\\_01](#). By preventing conflicts between wolves and humans (particularly farmers and shepherds), the WPIUs helped reduce the environmental damage that might arise from such conflicts, such as large carnivores' direct persecution, with the **implementation of non-lethal preventive measures**, such as electric fences, acoustic deterrent devices, guard dogs, fladry and other forms of protection for livestock. This best practice can promote sustainable agricultural practices and land-use.

The implementation of measures against illegal wolf killing and release of poison baits (Threat # 2 "poaching and poisoning") is linked to a low acceptance of the species. The project documented that 74 wolves were illegally killed within the LWA EU project framework (data coming from D2 action). The Action C2 was aimed to perform interventions to **discover and prevent poaching events**, that directly act on the whole ecosystem, because e.g. the release of poison baits causes negative effects to many other zoological communities (e.g. birds and small carnivores, not only to wolves). Additionally, these **activities, mainly carried out by environmental policies** (i.e. Carabinieri Forestali) or park rangers provided **more opportunities of territory inspections and patrolling, acting as a deterrent against many types of environmental crimes**. The coordinated workshops and training sessions among Anti-Poisoning Dog Units (APDUs) created a unified approach to tackle environmental crimes, ensuring that best practices were consistently applied throughout the target areas. Moreover, a specialized database was created and maintained to track environmental law violations related to poaching, providing a detailed record of interventions and toxicological analyses that will help in addressing future conservation efforts. From 2022 to 2024, the number of preventive and urgent inspections increased, going from an average of 26 monthly inspections in 2022 to 39 in 2024. In particular, in Italy, from 2022 to September 2024, **1114 inspections were carried out**, of which **731 were preventive (66%)** and **383 were urgent (34%)**. Urgent inspections, activated following specific reports, showed a higher number of positive findings, suggesting a more targeted and effective counteraction. By addressing the illegal use of poison, which is identified as one of the most significant threats to the survival of carnivorous mammals, **the strategy aligns with long-term broader environmental protection policies**. The overall detected events of wolf mortality due to poisoning and poaching were estimated to be reduced by about 68% within the project timeframe (i.e. 16 cases detected in 2020 against 5 in 2024, see data from [Annex\\_FR\\_D2\\_01](#)). However, considering that these data referred to the short period 2020-2024, we can assess this evaluation as preliminary, and affected by fluctuations in its trend. 2023 was characterized by a high rate of poaching events (n=26 cases), therefore this phenomenon should be investigated and tackled also in the future.

The **long-term impacts of this action** will be ensured by the extension of two additional APDUs that will be operating from 2025.

Threat # 7 related to the possible presence of hybrids was largely addressed in Action C5, **according to the Recommendation n. 173/20141 of the Berne Convention**. After the first wolf-dog hybrids detection in the Italian Alps in 2020-2021, the implemented measures of hybridization control led to the reproductive neutralization of 4 hybrids both in the Apennine Corridor and in the Cottian Alps. The actions A6 and C5 have already outlined and tested guidelines and managing approaches, also providing optimal training and creating new skills in public institutions dealing with wolf conservation.

The Alps are among the largest wilderness areas in Europe for tourism purposes, in fact, the flow of tourists in the alpine region is continuously increasing due to the popularity of activities such as hiking. The increasing number of tourists is a cause of serious disturbance to wildlife, both in terms of individual conditions and population dynamics. Therefore, the “*Non consumptive use of wolves in tourism*”, endorsed by LCIE and developed in Action C7, provided some guidelines for promoting a more sustainable and responsible tourism that does not compromise wolf conservation, and a respectful behaviour, able to take into account the presence of wolf, but also of guardian dogs (LGD) at work. These suggestions were also provided in the 17 training courses for nature guides to improve the environmental impacts of these guidelines.

The “*Handbook of Environmental Impact Assessment Guidelines for wolf conservation*” (Action C6.2), dedicated to managers in land planning, development and management, provides a practical tool to promote wolf conservation through the implementation of best practices to preserve the wolf ecological needs, particularly during the breeding season in compliance with European Dispositions and scientific knowledge on the ecology of the species.

Despite being locally implemented, Action C6.1 was planned to improve the dramatic ecological fragmentation of Upper Susa Valley. This area (in the province of Torino) was considered a “sink” area, due to a high mortality rate, both of wolves (58 wolves died in accidents with vehicles and trains since 2001) and of other mammals (above all ungulates, with thousands of accidents occurred in the last 2 decades). The planned mitigation measures were implemented to: 1. improve connectivity through wildlife safe crossings of linear infrastructures, 2. encourage a cautious driving behaviour in specific segments of state roads, and 3. improve general awareness on this ecological and safety issue, both dedicated to locals and tourists. Overall, key considerations regarding wolf mortality due to train and car accidents can be drawn from Action D3. Since the implementation of mitigation measures in 2022, a general decline in accidental mortality events has been observed (see details in [Deliverable, Annex\\_FR\\_01](#)). A local survey conducted from 2022 to 2024, following these interventions, preliminary suggests a partial reduction in the impact of linear infrastructures, and highlighted that the variable message boards have a stronger impact than fixed signs. Moreover, awareness of changing driving behaviour has grown by improving the attention and reducing the driving speed. In the end, a significant outcome of this effort was the establishment of collaboration with managing agencies—ANAS, RFI, and SITAF. This cooperation facilitated the implementation of mitigation measures, reflecting improved governance and the potential for long-term benefits.

## 6.4.2 Economic benefits

Economic benefits generated by the project can be evaluated from different points of view:

- Reduction of the expenses related to damage compensation and prevention
- Revenue for local suppliers of material needed for implementation of project actions
- Revenue from Ecotourism activities were developed for local operators
- Nr. of people resident in the project areas contracted for implementation of project actions.
- Valuable opportunities for improving highly specific professional skills and expertise in operators and technicians of national, regional, and local institutions.

The available quantitative evaluations of the economic benefits derived from socio-economic indicators monitored in D2 action. Due to the Covid Pandemic many activities with economic implications had a growing and wide impact starting from the second half of 2022. The quali-quantitative impacts are fully



described in the “*Report on the assessment of socio-economic impact of the project and ecosystem functions*” ([Deliverable, Annex\\_FR\\_D2\\_01](#)).

**The LIFE WolfAlps EU project promoted sustainable growth by offering close to market solutions, enhancing local products and services, especially in the field of ecotourism and sustainable tourism connecting them to biodiversity and wildlife conservation.** The activities related to ecotourism (Action C7) were widely connected with the economic impacts of the project, becoming a source of income, amplified by its success and high number of replicates (see 6.4.4). In the framework of this action we provided the first wolf ecotourism guidelines, to illustrate which tourism practices are potentially harmful for the wolf (see “*Non-Consumptive Use of Wolves in Tourism: Guidelines for Responsible Practices*” [Deliverable, Annex\\_MR1\\_C7\\_1](#)). Based on the contents of the guidelines **754 professionals** have been trained. **The professional training is a business tool:** the specialized and quality training offered by the project constitutes an economic added value that nature guides will be able to spend even after the end of the project to independently sell thematic wolf hikes, helping to increase the dissemination of correct information.

**17 ecotourism packages** were created and released with 4 tour operators involved, of which 8 expected by the project proposal. Great success was obtained by winter (snow tracking) and summer (visit to pasture) one-day events (143 in total of which 64 expected) that contributed locally to the sustainable enhancement of the territory, providing visibility to small businesses and pastoral realities. In this framework, **3.264 people joined these initiatives, at least 33 facilities were involved, and more than 200 people were employed in activities related to wolf friendly eco-tourism packages throughout the Alps.**

In addition, wolf-related ecotourism, regulated by the project Guidelines, is locally (e.g. in Lombardy) a novelty for recently recolonized areas. The massive investment of the project in training tourism professionals and in event organization was intended to **lay the groundwork for a new type of wolf tourism offer** destined to become a solid tradition with positive economic and conservation support implications in the after-LIFE period.

The website [ecoesistenza.it](http://ecoesistenza.it) is a communication tool that aims to bring out and make visible on a map the existing and solid network of ecotourism producers and professionals, who actively support coexistence with the wolf (including nature guides, alpine refuge, restaurants etc). The website **allows consumers to be guided by their sustainable choices.**

Project partners together with the supporters implemented and will continue to promote the **Young Ranger Programme** (Action C8), thus encouraging children, their families and schools to travel and discover all the Alpine protected areas included in the Network, increasing the economic benefits for these areas.

The small supply chain created by APAM starting for the **valorisation of greasy wool from local breeders** through the production and sale of cushions for pets, made it possible to collect enough money to repay farmers for the wool at a fair price: this was an unexpected success as normally farmers have to pay for greasy wool disposal as it is classified as an Animal By-product according to EC Regulation n. 1774/2002, as described in the dedicated news: (<https://www.lifewolfalps.eu/en/un-cuscino-per-dare-nuova-vita-alla-lana/>). This small experimental project showed that the valorisation of greasy wool is a concrete tool to provide sheep shepherds with new perspectives, as their sheep are undoubtedly among the most vulnerable prey to wolf attack. Moreover, this approach could stimulate the involvement of local institutions and organisations whose contribution - including economically - is indispensable to start such a supply chain. The set up of a supply chain for the production of cushions for pets starting from greasy wool, as described above, has demonstrated the possibility of creating positive effects on the local community both on an economic and social level. Even though there are some examples of similar initiatives across Europe, this still remains one of the few experiments in North Western Italy.

Action C1 implementation revealed notable differences in livestock management and wolf-related issues across the four countries of the project. These factors are responsible for the diverse levels of collaboration of the breeders with the project’s Wolf Protection Intervention Units (WPIU). Globally, WPIU teams have assisted **1077 farmers** in applying preventive measures, including tailored solutions to minimize economic losses due to wolf depredation, and in helping breeders to access compensation programs and funding from Rural Development Programs (RDP), strengthening the connection between rural activities and these support systems. The project assisted farmers to protect over **190,000 livestock** in using preventive measures such as electrified fences, livestock guarding dogs (LGDs), fladries and in suggesting the correct management strategies to reduce predation incidents. As fully described in [Deliverable, Annex\\_FR\\_C1-](#)



**D2\_01**, in Slovenia and Italy, the results were promising, breeders were generally cooperative and responsive to the advice from the project's WPIU, resulting in successful interventions and in a **significant reduction in wolf attacks and economic losses** (in Italy 81.0% and in Slovenia 90.3% decrease in wolf attacks for farmers involved). In France and Austria breeders were less willing to engage, thus reducing the overall effectiveness of interventions in these countries. In conclusion, it was clear how **the correct and constant use of preventive strategies and the assistance to breeders** by expert operators in application of the best practices developed within Actions A2 and C1 **can decrease wolf attacks and victims**, providing good solutions for long-term coexistence of animal husbandry and wolves in the Alps. WPIU also helped breeders access compensation programs and funding from Rural Development Programs (RDP), strengthening the connection between rural activities and these support systems.

We also consider the LWA EU project also **providing economic benefit and advantages for national, regional and local public institutions by organizing hundreds of free training sessions and courses for operators employed** in these institutions and involved in wolf surveillance, wolf damage and illegal killing prevention, mitigation of hybridization etc., **offering valuable opportunities for improving highly specific professional skills and expertise**.

### 6.4.3 Social benefits

LIFE WolfAlps EU provided the opportunity for hiring a number of technicians, experts, administrative staff, for the implementation of the project's activities, for variable lengths of time, having general social benefits as well, also giving **training opportunities both for permanent staff and for additional employees**. A large number of **volunteers contributing in some concrete actions** (above all in wolf surveillance, Action C4) have been impacted by the project due to specific training received and concrete experiences in the field. In fact, **involvement of volunteers** belonging to environmental NGOs or other kinds of associations (e.g hiking and hunters associations) **improved the dissemination, amplifying it, because the volunteers became themselves vehicles of dissemination in their own people network**. Moreover, the website page "<https://www.lifewolfalps.eu/en/report-a-sighting/>" represented an involving tool for the general public and stakeholders, improving **opportunities of citizen science**, by reporting possible sightings to be validated by the project.

The 76 day-long ecotourism activities to alpine pastures in the mountains not only disseminated correct information about wolves and human-predator coexistence, but also succeeded in building a bridge between the worlds of hikers and breeders, which often do not communicate and are separated by strong mutual prejudices. **Breeders often feel isolated and misunderstood** because most people have only a very superficial understanding of what it means in practice to implement effective prevention measures. Seeing on the field electrified fences, batteries, solar panels, and meeting livestock guarding dogs allowed to better understand the daily reality of the shepherds' work and empathize with them. This **positive social side effect** was made possible thanks to the valuable mediation work of the nature guides trained as part of the project. Some social benefits come also from the "*Operating strategy for the central structure of connection of environmental policy*" provided in the framework of action A3. The strategy takes into account the socio-economic contexts that drive illegal poisoning, such as conflicts between wildlife and farming or hunting activities. By identifying these factors, **the strategy not only tackles the symptoms (poisoning) but also considers the root causes**, which could lead to more sustainable solutions in the long term.

The LWA EU project organised a large number of events for the general public in the framework of Actions E (see related chapters for details). For instance, **223 public events** organised reached **over 57.000 people**. This outcome indicates the **great need for correct information on the species** and a **confrontation among experts, local authorities and the general public**. Many events, not previously foreseen, were directly requested by the local communities or performed in order to increase awareness about the presence of livestock guarding dogs in alpine touristic areas, as the high density of hikers and tourists in general in mountain areas in the summer months may generate contrasts with breeders. Also, for this reason, additional efforts have been made to broaden the project's borders. As an example **in South Tyrol (I)**, a communication campaign not previously foreseen was implemented using the "*I saw a wolf*" poster basis producing high-visibility multilingual marketing materials and publications (digital campaign, posters at

bus stops...). Moreover, the poster was converted into a brochure translated in 4 languages in order to make it easier to distribute in public places and during public events.

Social media has now entered the daily lives of each of us, assuming full communicative and behavioural centrality, influencing everyone's life. For this reason, our project invested a lot of energy in the dissemination of the project outcomes and correct information through **social media channels and the project website**. We believe that this investment provided **large impacts, also beyond the project area**, because coexistence and mitigation of the conflicts between wolf presence and human activities arouse an interest, and this involvement was reflected in the interaction between the project and larger public and stakeholders, **reaching and influencing a growing number of users visiting the official website (367.271 users reached)** and social network (e.g. 13.697 likes in Facebook page, also visited by 561.727 people) (details in Chapter 6.3.3).

The project promptly intervened in the verification of information and possible debunking, also in response to a defamatory television broadcast against the project (but also against the LIFE funding in general). Therefore, we believe that these communication activities also provided an important and large-scale contribution to disseminate and spread the importance of the LIFE Program. Also, international networking workshops (Action E1.3) were a good occasion to increase the knowledge on communication and cooperation connected to environmental issues. With the last two workshops, in fact, we addressed trending topics for environmental communicators and project managers therefore arousing much interest in public and private organisations.

Also, thanks to the **traveling immersive exhibition** and collateral events (E5) a large audience was contacted with emotional contents, thus amplifying the traditional informative communication methods. Positive feedback, reported on the project webpage, highlighted the uniqueness of the experience, and once again the need for reliable and factual information.

Partners and supporters involved in educational activities have largely exceeded the expected results, either working with **students across the Alps** and providing **updated and practical outdoor training for teachers**, and have created **educational packages for the School years to come, such as APAC** (E4) and APAM (see C8). Of particular note is the positive social impact of educational actions and, in particular, of Action C8, whose goal was not only to inform a generation of young people between the ages of 7 and 12 about the importance of wolf and biodiversity conservation, but also to motivate kids to become **active players in nature protection**. The initial target of 5.000 kids involved by the Young Ranger program was at least doubled: if we consider the impact each youth has on his or her household, we can estimate that, between youth and families, the awareness-raising impact reached at least 30,000 people in total, with **a transfer of awareness from the younger generation to the parent generation**. Moreover the YR program has also enabled a **strengthening of the Alpine network of protected areas**, with a virtuous transfer of knowledge and best practices, but most importantly with a strong awareness of the **social mission of the Parks**, which are committed to the sustainable use of protected areas and their protection for future generations.

All the **communication campaigns** dedicated to specific categories of stakeholder, developed within each action C, developed specific awareness for better social acceptance. In particular, the awareness campaign dedicated to farmers on the importance of using adequate prevention measures to protect livestock against the attacks of the wolves lay the basis for adequate understanding of these systems. Similarly, the awareness campaign performed in action C6.1, aimed to improve awareness on the issue of habitat fragmentation caused by the dense network of roads and rail, where wolves and ungulates are involved in vehicle-collisions. In addition to this environmental issue, the measures implemented can **improve the safety of the roads in Upper Susa Valley, by reducing the likelihood of car accidents with large mammals with possible severe consequences also on drivers**.

Additional efforts have been made to improve the acceptance by the livestock breeding sector such as the creation of a small **supply chain for the valorisation of greasy wool** from local breeders in Alpi Marittime through the production and sale of cushions for animals (see C7). Greasy wool in fact is a burden for breeders as it cannot be disposed of as normal waste. The valorisation of this “by-product” through its

transformation in products for sale is a strategy not only economically but also socially appealing, because it may attract and therefore raise awareness in the general public.

The LIFE WolfAlps EU project has stimulated understanding and knowledge improvement of wolves through educational and dissemination initiatives, provided damage prevention tools, and encouraged the active involvement of stakeholders. For livestock breeders, the introduction of mitigation measures and compensation systems has reduced economic losses, and the support provided by the WPIUs in damage prevention and to access financial tools have been appreciated by many shepherds and breeders, **reducing the gap between the pastoral world and institutions**. In the Alps the use of damage prevention measures has constantly been disseminated **enabling different examples and models of coexistence with wolves, as demonstrated by 7 breeders steward supporting our project**.

Hunters were actively engaged, also in fieldwork, such as camera trap monitoring and roe deer captures in Actions A4-C3. Furthermore, communication and collaboration with hunters was intensified through regular updates, workshops, and direct channels such as mailing lists, social media, and videos, promoting the dissemination of results and fostering a better mutual understanding, above all in France, despite the strong opposition challenges met (as discussed in Ch 6.2).

#### 6.4.4 Replicability, transferability, cooperation

The project provided important innovations (see Ch. 6.4.6) and best practices (see Ch. 6.4.5) that have been spreaded via cooperation, networking, communication and awareness raising. Moreover, **our 119 project Supporters** (19 more than at the project start) **have increased the opportunities to amplify, replicate, transfer and consolidate some successful outcomes, approaches and methodologies**. We exceeded of 9 further supporters the target of 10 additional supporting forms (i.e. Form A8, Action E2.1) foreseen by the project. In addition, the involvement of the WISO group of the Alpine Convention further emphasized the transferability of the project's strategies.

The organization of the surveillance activities performed in A5 required the involvement of Institutions, public bodies and associations, in order to create a wide network of operators, trained to collect biological data of the wolf for the estimation of the species at alpine population level. This aim was achieved by organizing **135 workshops, training and field courses throughout the Alps**, in some cases **outside the project area**, in order to homogenize the species sampling design, and involving at least more than 5000 participants (to be considered a long-term heritage of the project, able to grant sustainability to investments), exceeding the expected results, in fact 35 workshops and 4 field courses were further replications of the results expected from the Project.

Specifically, **the same sampling design provided to estimate the alpine wolf population was transferred to carry out the national monitoring in Italy and adopted by Veneto and Friuli Venezia Giulia Regions**, even if non-project partners. Always in the framework of Action A5, three additional "International Scientific Committee" workshops were organized to regularly adapt methodologies and enhance international coordination among the seven neighbouring Alpine countries. Two of these workshops were scheduled within the Project's scope, while the third, organized by KORA (a Foundation responsible for wolf monitoring in Swiss), was an additional replication that highlights the sustained effectiveness **of strong inter-country coordination even beyond the Project's framework**.

The WPIU strategy, that represents one of the main project best practices and innovation, has already been widely amplified: in A2 we **created 43 WPIU**, exceeding the target of the 23 foreseen by the project (**20 WPIU replications**), performing **1869 interventions** in the field (**almost doubling the 812 planned**) in support of about 1100 breeders. This objective was achieved also thanks to the effort put into A2 to train the operators, also organising a total of **6 additional** training courses.

A concrete example of the project's wider impact is the **SheepShield project**, initiated by LWA EU partners and supporters. Drawing on the operative strategies and knowledge gained from the WPIU experience, SheepShield collaborated with local authorities, agricultural associations (e.g., Coldiretti), and farms to implement both educational activities and practical livestock protection measures.

We highlight in particular, **the replicability of the strategy for the mitigation of wolf-dog hybridization issue**, mainly defined for implementing this threat in the Apennine Corridor, ([Deliverable, Annex\\_MR1\\_A6\\_10](#)) but has been then performed, for the first time, in the Alps too. **Specifically, additional interventions have been implemented with a partial modification of the Action C5 in the Cottian Alps**, leading to the removal of 2 wolf-dog hybrids in the alpine context as not originally planned by the project. **This strategy was also adopted in 2022** in Friuli Venezia Giulia Region for managing a cross-border hybrid pack in the Julian Alps (**outside the LIFE Wolfalps EU project**) and by Lombardy Region (RELO) performing an opportunistic management of a hybrid black female found injured. The individual was in fact sterilized and released equipped with a GPS collar following the criteria proposed by the guidelines provided in Action A6 and in connection with ISPRA ([Deliverable, A6 Annex\\_MR1\\_A6\\_02](#)).

The **ecotourism events** (Action C7) and the **Young Ranger Program** (Action C8) represent some very successful activities providing a large number of replicates and people involved.

The **winter and summer single-day events (snow tracking and visit to pastures) have been widely appreciated and in demand**, and partners implemented **143 events of which 79 additional**, with at least **3.264 people involved**. These events were particularly important because they represented the pioneering beginning of a local wolf-based ecotourism "tradition" as well as a **very important tool for disseminating scientific knowledge and best practices in an area of recent and in progress wolf recolonization**. Having closed the project with more than double the number of events than planned, we can say that we have effectively compensated for the participation in the treks below expectations. Moreover, **a total of 17 training courses** were organised of which **8 additional** involving **754 professional guides**. Training courses are a valuable tool for **capitalizing on guidelines** related to ecotourism, spreading the content among tourism professionals (see [Deliverable, Annex\\_MR1\\_C7\\_01](#)). This creates the **basis and prerequisites for sustainable wolf tourism**, even for the period after the end of the project. A truly considerable, noteworthy additional effort was carried out once again in the territory of the Lombardy Region, where widespread and massive dissemination of awareness and best practices about wolves is most urgently needed.

The final design of the **Young Ranger Program** developed in Action C8, inspired by programs dedicated to young visitors to the U.S. Parks aroused a huge interest and impact in the entire project area. In fact, the **Parks/Museums/Wildlife areas participating in the program are currently 40, 11 more than initially expected**. Although 9 events to involve local kids were planned, we performed **165 events**, also engaging local schools in field activities, and **146 YR celebration days had been realized by the end of the project (despite 12 were planned) which led to at least 10.000**. We believe that, being so innovative and successful, the YR program will provide a **significant contribution to the project' sustainability**, also after the end of the project.

**Also, the communication and dissemination actions provided a large number of replicates thanks to the strong link to the interest of public and private parties**. In fact, the proposed educational activities were warmly welcomed and largely requested by educators and students: for example, the UniversiWolf initiative provided 10 further replicates by SFS, APAC, APAM, MUSE. Similarly, the initiative "More experts in the classroom" with over 50 replicates by APAC, APAM, RELO, MUSE, while SFS organised 16 additional "Wolf in a backpack" events, doubling the number of students involved. The impact of such activity has been replicated thanks to its inclusion in APAC's educational proposals to schools of the Associazione Polvere di Stelle, trained during the project. Moreover, several proposed products (e.g. Kamishibai Theaters and illustrated book "I lupi delle Alpi") generated great interest in teachers and educators in general with non foreseen presentations and laboratories in several libraries and festivals. Since the products are for sale in bookstores all over Italy, they will remain available for future educational activities.

Moreover, the infographic posters produced for the **awareness campaigns** (E1) on prevention of wolf attacks on livestock, on anti-poaching and on best practices to avoid habituation (*I saw a wolf!*) raised interest outside the LWA EU territory. The LGD panel was adopted by the Parco Regionale Adamello, the APDU poster was adopted by the Comando Carabinieri Forestali della Toscana, and the poster "*I saw a wolf!*" was requested by the Italian Alpine Club of Bologna, Monte San Bartolo Reserve in Marche Region (central Italy), the municipality of Gambugliano, while the Maiella National Park adapted the graphic and



used it in the municipalities within the Park area. The whole “I saw a wolf!” information campaign was designed to be replicated and transferred as much as possible also with the use of specific and simple infographics illustrated in the related articles (<https://www.lifewolfalps.eu/en/ho-visto-un-lupo/> , <https://www.lifewolfalps.eu/en/lupi-confidenti-sintesi-della-conferenza-internazionale-2022/>) and an additional version as brochure for a more widespread distribution, allowing **an awareness campaign in South Tyrol (I)**, not previously foreseen. Also, the new brochure by APAM “Il lupo... a piccole impronte” was replicated and translated in German by EURAC thus enlarging the awareness campaign where it was not initially foreseen.

The **organisation of meetings with stakeholders** (E3.2), initially started at a low pace, increased **exceeding the target number of meetings thanks to replicates** (n. 82) with other groups of stakeholders not originally planned, involving local or national public institutions, tourist operators, local associations for land development etc. For instance, in Slovenia, meetings were organised for different types of local stakeholders following the need of the population, and in Lombardy (Italy) ERSAF organised 16 additional meetings in 2023 and 2024 with four different categories of stakeholders directly affected, on a professional level, by the return of the wolf.

Thanks to the Stewards’ involvement the project was able to expand its outreach, replicating project actions or even best practices. Tourism, prevention of wolf attacks on livestock, wolf monitoring, communication and education were the main categories in which Stewards operated. In particular, within the educational activities the Young Ranger programme had the chance to increase enormously its results, reaching a high number of kids (10.000 kids as discussed above) across the project territory.

We consider that the whole **LIFE Wolfalps EU project was built on cooperation, and this characteristic is one of the main keys for the implementation of such a configured project**, and based on international collaboration and networking building. Here are highlighted some experiences that concretely can illustrate this project feature.

One of the main example is represented by the collaboration established among the Alpine Countries involved perform the sampling of the whole wolf alpine population (during the winter 2020-2021), and therefore to update the status of the species at the transboundary Alpine level (see “*Surveillance strategy to optimize the integrated surveillance of the Wolf Alpine Population Status*”, **Deliverable, Annex\_MR1\_A5.1\_3**). We point out that **this project outcome was also drafted due to the collaboration of experts from Germany and Switzerland, belonging to the WAG as the other experts involved**. Another result is made up of the International Alpine Report on the evaluation of initial situations to focus interventions and ad-hoc optimal preventive strategies in the Alps (**Deliverable, Annex\_MR1\_A2\_02**) that was **written in connection with the WISO platform of the Alpine Convention**.

A further example the coordination of environmental judicial policy has been implemented at international level by establishing a **collaboration with police officers from the alpine countries (CUFA, Austria and Slovenia Police Corps) and EUROPOL**, that contributed to implement an international cooperation useful for set up a strategy at international scale regarding environmental crimes investigations through the international network EnviCrimeNet thanks to the partnership of Arma dei Carabinieri (Ministry of Defense) (performed in A3). Action C2 led to significant **expansion of anti-poisoning efforts across the Alpine region**. Seven new Anti-Poisoning Dog Units (APDUs) were established in Italy, and the first APDU in Austria was introduced, extending coverage from Piedmont and Liguria to Lombardy, Veneto, and Austria. Regular training sessions and coordination meetings enhanced the effectiveness of these teams, with a total of **over 1100 interventions carried out** by the 10 Italian APDUs, exceeding initial targets. Additionally, **two new APDUs will begin operations in Piedmont in 2025 as part of the After LIFE Plan (2 new trained dogs - Argo in APAM team and Maya in APAC team, see Annex\_FR\_C2\_05)**. This expansion and cooperation fostered the exchange of best practices and ensured **the sustainability of anti-poisoning efforts**.

Finally, the **Touring Thematic Conferences performed in E6**, in addition to being a major achievement for the project, also represents an important outcome of the international collaboration based on sharing knowledge and experiences able to increase the effectiveness of wolf conservation for improving the management at population-level.

## 6.4.5 Best Practice lessons

The overall best practices implemented by the LIFE WolfAlps EU Project is represented by its **transboundary approach**, a paramount keystone, which promoted a large carnivore species management at population-scale and beyond each national borders. This approach, that will continue after the project's end, represents in itself a best practice lesson that can potentially be transferred to other cases/populations/species and other geographic contexts.

The LIFE WolfAlps EU project serves as a best practice model for wolf management in regions where its presence is long-established or newly re-established, including lowland areas. The project's focus on preventive strategies, anti-poaching efforts, and conflict resolution has demonstrated success in reducing wolf mortality and easing tensions with local communities. Key components include a proactive prevention approach that prepares local residents for coexistence with wolves and communication strategies tailored to conflict resolution. The main best practices are summarized in [Annex\\_FR\\_A8\\_01](#)

The pilot experience gained over the years of implementing the "*WPIU Operating Strategy*" (Actions A2-C1) was central to the project's (see Ch. 6.3.2). This strategy produced significant and multiple impacts, key takeaways and lessons learned. First of all, different livestock management and wolf-related issues characterise the four Countries of the project influencing different levels of collaboration of the breeders with the WPIU operators. Therefore, not general, but ad hoc solutions should be proposed at the local level. **Shepherds' positive feedback underscores the importance of rapid and professional support when wolf attacks occur**, as well as the necessity for breeders to feel that institutions are actively engaged in addressing the challenges of alpine grazing in the presence of wolves. Shepherds particularly valued the assistance and ongoing dialogue with the WPIUs, especially in situations requiring immediate on-the-ground intervention.

As highlighted in [Deliverable, Annex\\_FR\\_C1-D2\\_01](#), 1. All the preventive methods used within the project have already been confirmed as effective, but the most important factor is their regular application, correct use and routine maintenance; 2. In areas with wolf presence where WPIU implemented preventive measures, wolf depredations had a 70% reduction and a decrease in economic losses. Additionally, while standardizing procedures facilitated the strategy's replicability, it was essential to adapt them to cultural and geographical specificities.

**Overall, our experience showed that, when correctly applied, damage prevention measures can provide a good solution for long-term coexistence of animal husbandry and wolves in the Alps**, and early interventions in high-risk areas are important to result in a reduction in economic losses. The growing demand for field visits, meetings, and practical demonstrations have shown the interest and replicability of the WPIU methodology.

A best practice that also reflects one of the main objectives is the approach aimed to provide an evaluation of the wolf in the Alps at population-level. The "*Surveillance strategy to optimize the integrated surveillance of the Wolf Alpine Population Status*" developed in Action A5.1 ([Deliverable, Annex\\_MR1\\_A5.1\\_3](#)) represents **significant best practice for wolf surveillance, management, networking building, and governance increasing at population level**, as suggested by the "Guidelines for Population Level Management Plans for Large Carnivores in Europe" and by the "Key Actions for Large Carnivore Population in Europe". The document, in fact, defines the integrated surveillance of the wolf alpine population over 7 Countries (performed in Action C4) by considering the estimation of the parameters to be monitored over time, spatial extent of the study area and the time scale of the international wolf alpine monitoring. This outcome is also technically and scientifically connected to the development of shared genetic tools and approaches among the various countries involved in the alpine wolf surveillance. The integration of standardized monitoring methods across multiple countries is crucial for ensuring consistency and comparability of data. **The adoption of coordinated protocols for monitoring wolf populations across 7 countries was a significant achievement, fostering international cooperation and reducing fragmentation in monitoring efforts.** The creation of the International Scientific Committee for Wolf Monitoring (WAG) helped facilitate the standardization of monitoring practices and ensured the continuity of monitoring efforts beyond the project's conclusion. Additionally, the project's focus on a **strong network of local operators involved in wolf monitoring, including public institutions, wildlife rangers, and volunteers**, is an excellent model for ensuring a real heritage for **long-term sustainability** and community involvement in conservation efforts.

The Life Wolfalps EU project, through the "*Operating Strategy for the Creation of a Central Structure to Support and Coordinate Environmental Police Forces in the Fight Against Poaching and the Poisoning of Wolves*" has promoted several best practices in wildlife protection, particularly in the battle against poaching and the poisoning of wolves. One of the main practices is represented by the **coordination among law enforcements**, in particular the **Carabinieri Forestali**, due to their role, both nationally and internationally, and other countries like Austria, Slovenia, and France. **Prevention also has played a central role, with activities such as the cleanup of poisoned areas and monitoring for potential baits or carcasses.** The APDU teams, regularly trained and operational in both Italy and Austria, have carried out numerous preventive interventions, significantly contributing to the prevention of new poisoning incidents. Additionally, the implementation of a monitoring system based on a **dedicated database** has allowed for the collection of valuable data and targeted responses to violations of environmental legislation. The LIFE WolfAlps EU project has demonstrated a **best practice in managing wolf-dog hybridization within the Alpine region**. A key outcome is the "*Long-term Shared Management of Hybrids at an International Alpine Scale*", providing a framework to address this recent conservation threat in the Italian Alps. The project highlighted some key lessons learnt, such as the necessity of integrating hybrid detection into routine surveillance. Moreover, implementing hybrid management locally is feasible but demands significant coordination, economic resources, and personnel. Early intervention is crucial for effectiveness, though large-scale application remains challenging. Overall, the project has provided a robust framework and valuable experience for future efforts in managing wolf-dog hybridization in the Italian Alpine Regions. Wolves are currently recolonizing parts of Europe expanding in new areas including lowland, fragmented and densely human populated landscapes. This scenario is becoming increasingly common in Italy, France, Slovenia and Austria, where nowadays wolves can also live close to large human settlements. Therefore, wolf experts and public authorities have to provide correct and coordinated information in response to people's concerns so as to prevent such misinformation from spreading unchallenged. Since some specific recommendations on how to behave responsibly in areas where wolves settled are always useful to guarantee both public safety and wolf conservation, **especially in areas recently colonized by wolves and densely inhabited by humans**, our project provided in the framework of the Action A7 a policy document "*Management of bold wolves at the alpine scale*" that transposes the indications provided by the Policy Support Statements of the Large Carnivore Initiative for Europe (LCIE), **for implementing good practices with respect to the management of the "bold wolves"** (see [Deliverable, Annex\\_MR1\\_A7\\_2](#)).

A further example of best practice provided by our project is made up of the **wolf ecotourism guidelines** titled "*Non-Consumptive Use of Wolves in Tourism: Guidelines for Responsible Practices*" (see [Deliverable, Annex\\_MR1\\_C7\\_1](#)), that upgrade the guidelines set out for responsible bear tourism provided in LIFE DINALP BEAR, for a sustainable wolf tourism.

A document recently provided in the framework of the Action C6.2, planned to become a new tool for land-use, is represented by the "*Handbook of Environmental Impact Assessment Guidelines for wolf conservation*" ([Deliverable, Annex\\_MR2\\_C6\\_01](#)), that suggests **measures and best practices aimed to the conservation of wolf reproductive sites**, to be integrated into the spatial planning and development. It was created as a practical and in-depth manual to promote the protection and the habitat integrity of functional areas for wolf conservation, particularly in. This guide provides tools and suggestions for a better implementation of the Habitat Directive, also related to the role of the wolf as an umbrella species.

The LWA EU has become a reference point on the **debunking of fake news** on wolves and large carnivores in general for journalists, media communicators and the larger public. The handbook "*Lupus in Bufala*" provides tools, techniques and step-by-step guidelines to identify and debunk fake news, an effective best practice that is being requested beyond expectations, reviewed and cited by 17 press articles, including 4 national ones, 2 podcasts, and an interview on one of the most important television programs on nature, on the national channel. Also the **booklet dedicated to the Stewardship Program, "[Engaging in Coexistence](#)"** is an example to promote best practices in this field, as it that narrates one of the most important and innovative actions of the project, conducting a critical analysis of what has been done, addressing challenges encountered along the way and most importantly, providing practical suggestions that we believe will be useful for future initiatives that aim at actively involve stakeholders. The booklet was also presented on occasion of the last networking workshop entirely dedicated to this type of cooperation and to the best practices to be developed.

As described above, increasing the knowledge of stakeholders on wolves and actively involving them in discussions on specific issues are functional aspects to lower the conflict level. For this reason, one of the key outreach actions was the involvement of a large variety of stakeholders. The [Platforms's meetings proceedings Booklet](#) contains a full description of the **participatory approach applied for the organisation of meetings and thematic platforms** in the frame of action E3, with the analysis of the results achieved and a discussion on the most relevant outcomes and governance indications as best practice to help institutions and stakeholders in the preparation of this challenging process.

Also, the small supply chain put up in Alpi Marittime for the **valorisation of greasy wool** through the production and sale of cushions for animals can be considered a best practice. This small experimental project showed that the valorisation of greasy wool is a concrete tool to provide sheep shepherds with new perspectives (<https://www.lifewolfalps.eu/en/un-cuscino-per-dare-nuova-vita-alla-lana/>), and shows how the local community and in particular the associations and local institutions could be involved and participate in order to facilitate, coordinate and finance the initial steps.

In the end, we consider **the participatory approach as an overall and transversal best practice implemented in the whole project**, as widely discussed in Paragraph 6.3.1. This shows how **key stakeholders, Public and Private Institutions and Bodies have been actively involved for the concrete and operating implementation of every project actions**.

## 6.4.6 Innovation and demonstration value

The LIFE WolfAlps EU served as an important model for the transboundary conservation and management of the alpine wolf population. It was one of the first projects to focus on conservation at a population-level, **addressing management and conservation issues of the entire wolf Alpine population across borders**. Given that most large carnivore populations in Europe are transboundary, this project provided a **key example of coordinated population-level management**, a practice still rare. The project set conservation goals for the population and adapted local and national management to achieve them, offering a model for other large carnivore populations in Europe.

This approach was transversally applied to many actions. **Transboundary coordination was set up since the beginning of the project (by creating international working groups) and it progressed driving authorities towards an improved international cooperation. This significant European added value** affected the whole project (from the planning to the implementation and monitoring of the actions, to the dissemination actions), with the adoption of **common policies and best practices** (see Ch. 6.4.5) by the countries involved at the Alpine scale. The project implemented at transboundary level by **20 Beneficiaries, 119 supporters and 32 project stewards all over the Alps** demonstrated capacity building in all actions, often creating new know-how, expertise or improving governance through synergies and cooperation among national/regional and local institutions, public bodies, private for profit, agencies, environmental associations and different stakeholders categories).

This project widely supported the European policy enforcing the alpine Network of the **Natura 2000 Sites**, in fact **44 of these areas protected under the Habitat Directive are directly managed by Beneficiaries of the LIFE Wolfalps EU**. This aspect represented **an important advantage in the effectiveness of the implementation of all project actions**.

The implementation of the **wolf monitoring, performed at the Alpine population scale, represents the first experience in Europe and its innovative value can be declined at different levels:**

- **Standardized Monitoring Framework:** A unified surveillance strategy was developed, integrating monitoring efforts across seven Alpine countries to accurately assess wolf populations on a transboundary scale;
- **International Coordination:** The Wolf Alpine Group (WAG) established a long-term collaboration among experts, enhancing coordination through regular workshops and adopting standardized methodologies, including Switzerland's participation;



- **Genetic Innovations:** A new genotyping method based on HTS of microsatellites was developed by the Genetic Wolf Alpine Group (GWAG).
- **Scientific Contributions:** These efforts culminated in significant publications and recognition as a best-practice model for transboundary wolf population monitoring.
- **Capacity Building:** Over 5000 participants across various fields (e.g., biologists, veterinarians, rangers, environmental policy, students and volunteers) were trained through workshops and field courses, leading to the creation of a robust “Wolf Network of Operators” to sustain long-term monitoring and conservation efforts, beyond the project end. Moreover, the use of the **App** for devices “*Gaia Observer*”, provided as a devices’ tool for operators (to register and georeference in the field the wolf presence signs during the first Italian National Wolf Monitoring), was extended beyond the National monitoring in Italy, and to all Alpine regions until the end of the Project and beyond, to facilitate data collecting.

The systematic experimentation of damage prevention approaches represented a “best management model”, in **particular the innovative WPIU prevention Strategy, working synergically and in complementarity with the Rural Development Programs**. As highlighted in [Deliverable, Annex\\_FR\\_C1-D2\\_01](#), the innovation of the WPIU Strategy tested in the project demonstrated its effectiveness especially in Italy and Slovenia, and provided a significant reduction in wolf attacks thanks to the proper implementation of prevention measures, and **the close collaboration/early support to livestock breeders with specific interventions**.

The **Operation Strategy against the illegal release of poisoned baits**, implemented through **Anti-Poison Dog Units (APDUs)**, have shown innovative and effective measures against wildlife poisoning. The strategy was initially tested in Italy, expanded to new Italian Alpine regions (e.g., Lombardy, Veneto) and introduced for the first time in Austria, marking a significant geographic expansion. Key innovations include:

- **Introduction of seven new APDUs in Italy and Austria’s first unit**, extending the strategy's reach.
- **Extensive coordination among countries** and enforcement bodies like CUFA, fostering a transnational approach.
- **Creation of a dedicated database** to track violations and toxicological findings, enhancing long-term conservation efforts.
- **Training of local police officers and regional agencies**, improving on-ground enforcement and acting as a deterrent to poaching.

**The Stewardship Program** aimed to promote a sustainable approach in a wide international and multicultural intervention area to key stakeholders, **developing the concept of “shared interest” with public and private third parties**. The project Stewards are represented by different types of stakeholders (e.g., breeders, farmhouses, hunters, environmentalists and nature guides). Although environmental and land Stewardship has already been used as a means of conservation, stewardship has been seldomly employed to involve people in the conservation of a single species, **so this was a big innovation of the LIFE WolfAlps EU project**. We consider that stewardship innovative because it offers a means of extending conservation practices beyond the project extent, implementing at the same time a sense of co-responsibility and co-ownership of the “wicked”/complex environmental challenges that LIFE WolfAlps tried to address.

A further innovation of the project is the **Young Ranger Program** (Action C8) that created a network of **40 among Parks/Museums/Wildlife facilities throughout the Alps**. The activities, directly promoted and implemented by Natura 2000 Sites management bodies, were built for kids and families to **create “aware of Natura 2000 Network” young generations**, committing them in environmental protection, providing a long-term investment for lasting support of biodiversity conservation throughout the Alps, and providing concrete field-experiences aimed to encourage environmental awareness and commitment. The initiative represented a huge **novelty in Europe, showing a wide impact, having already involved over 10.000 kids all over the Alps, and that will last after the end of the project**.

Our project promoted as a novelty a **talking label website “[ecoesistenza.it](http://ecoesistenza.it)”**, a communication tool that aims to bring out and make visible on a map the existing but often silent network of ecotourism producers

and professionals who actively support coexistence with the wolf (including artisans, cheese producers, nature guides, accommodations, etc. etc): **in this way, consumers can guide their choices.**

Contrasting fake news and misinformation on wolves is crucial to achieve coexistence: wolves are charismatic animals and they attract media and audience attention. Fake news such as false wolf sightings, attacks on people or animals, and other wolf-related events that either never happened generate the feelings that wolves represent a threat to humans. To enhance a critical mind set, **practical guidelines** (not explicitly foreseen by the Grant Agreement) **to recognize fake news on the wolf** (see [Annex\\_MR1\\_E2\\_13](#)).

One innovative approach developed in the frame of the project was the collaboration with artists and museums. The purpose of the **immersive exhibition “Through the eyes of the wolf”** was to play role reversal, using video and audio effects. For 15 minutes the visitor experiences coexistence from the point of view of a young wolf in dispersal moving through a man-made territory. Immersive exhibitions are widely used in the art world, but for the first time this technology was employed to communicate about large carnivores. The exhibition proved to be effective in communicating to the general public without a specific opinion on the wolf but potentially interested in its biology and behaviour.

Another innovative and positive experience for its spin-offs in terms of communication and social impact aimed at the broader public was the **Art Camp in Slovenia**, whose impact was amplified by the publication of a [book illustrated](#) by the artists involved. Finally, **3 podcasts addressing different target audiences** (children, young adults and adults) were produced and released online. Podcasts are an innovative communication tool that is increasingly popular in Europe and thus allowed the project to reach a larger audience.

### **6.4.7 Policy implications**

The LIFE Wolfalps EU has achieved important targets that are contributing and will contribute to regional, national and European policy implementations. These processes are facilitated by 119 project supporters among regional, national and European Institutions that are sharing the wolf population and developing policy while accompanying the Beneficiary responsible for the project implementation. Such types of outcomes are discussed in detail in the Ch. 6.3.4 Policy impact.

## 7. Key Project-level Indicators

The Key Project-level Indicators were successfully entered in the web database provided by the European Commission and submitted to the Project Monitor on the 1th of April 2022.

The main indicator values foreseen as targets for the end of the project and of the After-LIFE period are listed in the image below.

**Project: LIFE18 NAT/IT/000972**

Snapshot ENV-Nature and Biodiversity – First report – 2018 ▼

Project Information ▼

Indicator Context ▼

Project Specific Settings and Indicator Selection ▼

**Indicator Values ▲**

1.5. Project area/length	
1.6. Humans (to be) influenced by the project	
7. Nature and Biodiversity	▼
10. Governance	▼
11. Information and awareness raising to the general public	▼
12. Capacity building	▼
13. Jobs	
14. Contribution to Economic growth	▼

The KPIs were annually monitored in connection with the implementation of D2 Action.

We can make 2 main overall considerations:

1. **No significant deviation from the foreseen targets was found;**
2. **Many indicators met or widely exceeded the expected values, despite the relevant restrictions imposed by the Covid-19 Pandemic that affected the first half of the project** (as discussed in MR1). Covid-19 Pandemic slowed down many activities and limited the opportunity of encounters in presence during the first half of the project. In fact, a great effort throughout the years 2021, 2022 and continued in 2023 and 2024 was carried out to increase the outcomes foreseen by the project and its positive biological and socio-economic benefits.

**We observed that the common denominator of the exceeding targets indicators were those concerning**

**persons involved or reached and supported in different ways by the project**, with impacts at different levels, including the impacts in introducing new best practices, raise awareness, creating new skills and know how in the operator of the public institutions involved as Beneficiaries or Supporters.

In particular, as shown in the Table 7.1, our data demonstrate that the project has provided benefits to many persons living and working in the project area, and their lives have been directly, positively impacted by the actions of project (e.g. the farmers assisted by the WPIU staff, the producer of wolf-friendly packages or products etc. (see example 1 in Tab. 7.1). It's also reaching a large number of people independently from the project action via the website and the social media tools (see example 3 in Tab. 7.1). Our project invested great effort in the increase of culture and knowledge via the education and dissemination actions (see example 2 in Tab. 7.1, highly exceeding all the predicted targets). This LIFE Project is also involving many different types of key stakeholders in round tables, meetings, platforms and field activities, such as hunters and breeders (e.g. in the framework of the actions A4, C3, E2.1, A2, C1, E2.1 and E3) (see example 4 in Tab. 7.1, where the forecasted value of available hunters was likely underestimated). We also highlight that the number of operators (technicians, rangers and volunteers) actively involved in some conservation actions (in particular A5-C4, A2-C1, A3-C2 actions) exceed the expected values. This outcome is particularly valuable because this network of operators represents a heritage for the sustainability of the project. Moreover, with the start of the Young Ranger Program - Action C8, and the improvements of education activities dedicated to schools throughout the project area (Action E4) the number of kids and pupils is very high, showing the large success of these initiatives and the impacts on younger people (example 6 in Tab. 7.1).

In the end, although the LIFE Wolfalps EU is implemented by 20 Beneficiaries, it is also aided by 119 Supporters among national, regional, local Institution, whose contribution and know-how turned out to be an indispensable condition for the development and implementation of good practices and improving governance (see section 6.4.5), but it is so far supported by 32 Stewards (details in Action E2.1), due to overall participatory approach adopted.

Other valuable impacts are quantified and explained in the KPI' database in Butler.

**Table 7.1 - Comparison between the foreseen values of some more significant quantitative KPIs and the corresponding values updated to the 12/2022 (accordingly with the progress of the D2 action, the updated values were collected in March 2023 and referred to 2022)**

n. Example	Indicator KPI	Expected Values		Actual values		Actual final values
		Project End 2024	5 yrs beyond 2029	Update 2021	Update 2022	Update 2024
1	<b>Persons positively impacted by the project</b> <ul style="list-style-type: none"> <li>• N. farmers assisted by WPIU</li> <li>• Producer of wolf-friendly products</li> <li>• persons employed in activities related to wolf-friendly eco-tourism packages)</li> </ul>	165	195	526	1.015	<b>1470</b>
2	<b>Persons with improved capacity or knowledge due to project actions</b> <ul style="list-style-type: none"> <li>• n. of children/students involved in education actions</li> <li>• tourists/visitors;</li> <li>• volunteers;</li> <li>• Ambassador teacher trained,</li> <li>• n. of Participants at stakeholder platforms</li> <li>• n. of newsletter subscriptions</li> </ul>	17.776	18.776	16.064	24.196	<b>115.459</b>
3	<b>Number of other persons reached</b> <ul style="list-style-type: none"> <li>• N. of unique visit of the website</li> <li>• n. of likes on the social media</li> </ul>	43.000	77.000	94.122	177.557	<b>419.964</b>
4	<b>Members of interest groups – Capacity building</b> <ul style="list-style-type: none"> <li>• Hunters involved</li> <li>• Farmers involved in meeting and platforms</li> </ul>	50	50	538	1.104	<b>1805</b>
5	<b>Professionals - experts in the field – Capacity building</b> <ul style="list-style-type: none"> <li>• Trained operators</li> <li>• Senior operators</li> <li>• Volunteers involved</li> </ul>	2450	2450	2600	8841	<b>10169</b>
6	<b>Pupils (of school age) – Capacity building</b> <ul style="list-style-type: none"> <li>• n. of kids involved in the Alpine Young Ranger Program</li> <li>• Children involved in education actions (nursery, primary and secondary school)</li> </ul>	5000	6000	0	9092	<b>10000</b>
7	<b>Number of events/exhibitions organized- n. of Public events-exhibitions; Thematic Platforms; N. of Wolf friendly eco-tourism events; conferences</b>	138	148	86		<b>538</b>
8	<b>Number of articles in print media (e.g. newspaper and magazine articles)</b>	700	750	459	852	<b>1374</b>



*Fig. 7.2 - LIFE Wolfalps EU trainings sessions of operators technicians, rangers and volunteers involved in conservation Actions (e.g. C1, C2, C4)*



*Fig. 7.2 - LIFE Wolfalps EU public events and stakeholders' platforms images*



*Fig. 7.3 - Hunters involvement in France*



*Fig. 7.3 - Images of activities performed in the framework of the Young Ranger Program - Action C8*