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## WORK PACKAGE 5 Deliverable D.T5.2.1.



### “Description of the most urgent Human-Nature Conflicts in Project Working Regions (PWR)”

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# 1 General Introduction -Ecological Connectivity and Human-Nature Conflicts

Ecological connectivity is at the base of ecosystems' health and species protection. Measures and activities toward its implementation on the ground can provide to stakeholders and large public an enlarged view of the landscape and of its functions. Ecological connectivity can highlight the ecological needs of wild species and the barriers that reduce their natural dispersal, giving, at the same time, the instruments for protecting humans' activities, improving habitats' health and permeability. Permeability is essentially synonymous with connectivity, referring to the degree to which regional landscapes, encompassing a variety of natural, semi-natural, and developed land cover types, are conducive to wildlife movement and to sustain ecological processes. Taking into account the diversity of economic sectors and economic interests on a given territory, summing up also the cultural asset, the local traditions and the recreational activities, that non necessarily have an economic return,, it is straight forward the importance of positive and constructive dialogue and cooperation among the different actors for the implementation of ecological connectivity measures.

Human - Nature Conflicts (HNC) in mountainous environment have a broad definition and may appear in the context of a political, social, economic, ethnic, religious or territorial conflict (Libiszewski, 1992; Cohn, 2002).

Conflicts in mountain areas usually develop when different needs or interests compete with each other over space and time. These conflicts often arise when new "players" appear, such as new touristic offers, the enhancing of recreational activities in the mountains, or new wildlife species coming back to their original territories, bringing new and unforeseen factors of change in an environment already shaped by traditions and rooted economic activities.

HNC often arise when a well-established balance between human and the environment are upset and resilience is required to build new "win-win" dynamics of coexistence. Conflicts arise because the difficulties of a society to adapt to new conditions, to new internal and external factors that need a reflection and a positive confrontation among local and international actors. In the case of HWC (Human-Wildlife Conflicts), unmanaged or poorly managed conflicts may present increasingly difficult obstacles to effective conservation of many wildlife species together with the continuation of economically viable mountain activities, or different land use of the territory.

The visible manifestations of such conflicts are often rooted in less visible and more complex social conflicts between people and groups. In that way, the efforts for conflict transformation have to be directed to engage stakeholders in a positive and constructive way to raise up the level of social carrying capacity and the local potentials for resilience. The final aim is to harmonize the social receptivity to conservation goals (Madden and McQuinn, 2014). Social conflicts in mountain areas can have a great impact on ecological connectivity, especially in the Alps, where the human prences presence is high and coexistence with wildlife is directly related to the level of social acceptance and adaptation potentials of local inhabitants.

## Relationship with ALPBIONET2030 Work Packages

In **Work Package T1**, the Swiss National Park is working on the Alpine wide standardized software for connectivity analysis, which aims at integrating the projects results and findings from all work packages of ALPBIONET2030 into a spatially explicit, web-based platform. The conflict collection and analyses will be integrated in the GIS tool in order to provide an additional information on the potential implementation of ecological connectivity in the Alps. The presence of unresolved or difficult to manage conflicts will be an additional factor to be considered in the process of identification of the most important and strategic areas for connectivity.

In **Work Package T2**, the Research Institute of Wildlife Ecology (Vienna) FIWI, aims to develop a harmonized approach for wildlife management across the Alps. This is important, because hunting is a major element of wildlife management and can either favor or hamper ecological connectivity. With hunting practices varying significantly among countries, this work package analyses the differences and ecological effects of hunting systems. Hunters are one of the most important and influencing stakeholders in the Alps and carry on an old tradition of managing and controlling mountains. Therefore, the presence of hunters and their agreement on ecological connectivity implementation is fundamental for a positive continuation of the work.

In **Work Package T3**, ALPARC analyses and distinguishes different spatial categories of areas, so-called Strategic Alpine Connectivity Areas (SACA), offering non-/favorable opportunities for implementing ecological connectivity in the Alps.

In the same direction of WP2, conflicts management is fundamental to have an enlarged view of the alpine territory, getting out of the little garden of each PWR.

Ecological connectivity is difficult to visualize just by looking at one territory. A certain area could have great connectivity potentials but could not be connected to the neighbor ones, or there could be new or unresolved conflicts, that would impede, de facto the creation of a valuable ecological connection.

**Work Package T4** under the leadership of ALPARC shall ensure a common view on necessary working steps for ecological connectivity between the players in the core area of the Alps and those beyond in the macro-region. This common view mainly refers to connecting the metropolitan areas around the Alps by using elements of the EU's Green Infrastructure concept and by involving important sectors such as spatial planning, agriculture, forestry, transport, tourism, etc. The motivation for this approach lies in the fact that the most important barriers for Alpine ecological connectivity are around the Alps, endangering them to become a genetic island of biodiversity. In comparison and opposite to WP T3 which analyses the connectivity potential, the focus of WP T4 is on barriers and how to overcome these.

**Work Package T5** aims at connecting with the above-mentioned topics of the other Work Packages, in order to provide concrete ways to transform a conflict into an opportunity and contribute to the implementation of ecological connectivity.

## Aim of Deliverable 2 and site visits

Deliverable 2 of Work Package 5 "Human-Nature Coexistence" wants to provide an overview on the conflicts that are currently creating concerns inside of the ALPBIONET2030 project working regions. The deliverable is based on the workshops done in the Project Working Regions (PWR) and describes different ways of engaging local stakeholders by the local administrations and partners of the ALPBIONET2030 project, regarding the new challenges facing Alpine areas in the



concrete implementation of ecological connectivity. In order to get all the voices of the local stakeholders, the workshops were conducted in the local language, except for the Italian/Slovenian PWR that was done in English.

The aim of the visits in the PWRs was not to establish a resolution scheme or any kind of management plan for the selected conflicts. Our goal was rather to define the nature of the current interactions among stakeholders related to the selected issue, to identify the conflict actors and components and to address them towards new possibilities to manage conflicts. Therefore, it appeared necessary to be physically present in order to avoid too many intermediaries in reporting the state of facts and perceptions. Meeting the stakeholders dealing with the issue on daily basis is also likely to give a better quality understanding of the problems in their authentic context. Wildlife and human activities management naturally remained the matter of discussion during our visits since improving it is the ultimate goal of discussing human-wildlife conflicts.

### Relation with Deliverable 1

In the Deliverable 1, based on literature research, we presented a collection of existing human-wildlife conflicts occurring throughout the Alps, in parallel with the different strategies developed to face them. This first report was based on the general statement that human-wildlife conflicts are complex interactions that rely on the ecological, ethological and social basis. By providing examples of concrete cases and ongoing projects supporting human-wildlife coexistence, we tried to highlight the acknowledged fact that the original mitigation strategies alone, which aim at limiting concrete conflict consequences, had a limited efficiency. In reverse, it seems necessary to combine multi- and inter-disciplinary methods in order to reach a qualitative and stable level of human-nature cohabitation management (Dickman, 2010; Wittmer et al., 2006), that would enter in the scheme of a well-established ecological connectivity management throughout alpine areas. Human perception and response to wildlife presence is a prominent factor that defines the conflict itself, its intensity and its consequences in the social sphere. For this reason, although some common features are found in each conflict, they are closely related to the territory where they occur, and so must be the response addressed to any of these confrontation.

### Hypothesis - potential impact of the selected conflicts

The initial hypothesis of our work was that each of the selected conflicts has a potentially negative effect on ecological connectivity and wildlife management and that only with a general knowledge and agreement between stakeholders it is possible to work together for the harmonization of the different economic activities in a certain territory with the wildlife species. Following, the selected conflicts will be presented with the initial hypothesis on their potential impact on ecological connectivity and wildlife management.

### BERCHTESGADEN NATIONAL PARK (GER): E-BIKES AND WILDLIFE MANAGEMENT

One of the main touristic offer in the Berchtesgaden National Park is the big presence of bike routes, which allow tourists to get to know the park amenities in a sustainable way.

Nevertheless, the spreading of new technologies for mountain bikes has given the opportunity to reach high-value mountain and core areas, up to now inaccessible to the most. With these

technologies (*e-bikes*), much more people can reach remote places in important and strategic areas for ecological connectivity.

The basic hypothesis is that the allowance of more people in remote areas, without a monitoring on the potential environmental and social impacts, can create a disturbance to both wildlife presence and dispersal and also to rooted and traditional economic activities (i.e., *hunting*).

#### SOUTH TYROL PROVINCIAL PARKS (IT) / HOHETAUERN NATIONAL PARK (AT): PARAGLIDING EFFECTS ON WILDLIFE.

Paragliding is one of the main touristic offers in the Hohe Tauern National Park. Paragliders usually start their flights from South Tyrol, in the Provincial Park Vedrette di Ries-Aurina and land in the Deferegggen valley in the National Park Hohe Tauern. The activity is widespread with increasing numbers of users. The environmental effects of this activity on wildlife have not yet identified, but the hypothesis behind is that a continuous presence of paragliders can frighten the local wildlife (especiall deer) and push them in other parts of the National Park Territories, where they can harm the natural regeneration of the wood and the forest activities.

#### PREALPI GIULIE REGIONAL PARK (IT) / TRIGLAV NATIONAL PARK (SLO): PASTURE USE, LIVESTOCK BREEDING, INTERACTIONS WITH UNGULATES AND LARGE CARNIVORES.

Prealpi Giulie Regional Park and Triglav National Park have a long history of cooperation in a transboundary area. Shepherds are used to take their animals on both sides of the area, although this activity may create some disturbance to other stakeholders (*hunters*) and to the touristic offers. Additionally, the return of some wildlife species in the area (*bear and wolf*) has highlighted the need for herd and livestock protection and for clarification in the compensation mechanisms. The starting hypothesis was that the combination of these factors (*some new, some old*) may be a cause of conflict in an area known for the long and fruitful cooperation history between neighboring countries.

A new agreement, based on mutual understanding of the needs of each category, is needed in the transboundary area in order to face the new challenges.

#### KALKALPEN NATIONAL PARK (AT): SHARED MANAGEMENT AND RESPONSIBILITY OF PROTECTED SPECIES

The Kalkalpen National Park is one of the few places in the Alps where the reintroduction of the lynx has been carried on with success. The new presence of this animal has created issues due to the predation of domestic and wild animals. As in other alpine areas, livestock predation by large carnivores is still unaccepted and it is a source of fear. These “new” factors lead to a certain level of unacceptance, which have brought also to some cases of poaching. The National Park is addicted as the only responsible for the wildlife management in the area. The park, on its side, is asking for a higher cooperation between local stakeholders in order to valorize the presence of large carnivores in the park’s area and share the management needs and responsibilities. Our initial hypothesis was that stimulating a general understanding and an increased cooperation among stakeholders on wildlife management it is possible to reduce the damages, avoid predations, work together for increasing the general permeability of the area (*therefore allowing the lynx to move freely also in other areas*) and increase the general social acceptance of returning wildlife species.



## ESPACE MONT BLANC (F): ROAD INFRASTRUCTURES AND ECOLOGICAL CONNECTIVITY

Animal-vehicle collision (AVC) are one of the main issues related to the interactions between human activities and wildlife presence. The high level of risk for AVC affects many people and wildlife species in their daily movements. The initial hypothesis was that, only through an increased knowledge and will to cooperate between different stakeholders, it will be possible to reduce the impact of this issue and contribute to the enhancement of local ecological connectivity. The interest of discussing this topic in Espace Mont Blanc is that besides of being a particularly high traffic area of the Alps, its transnational location represents an opportunity for a broad multicultural work and cooperation.

## 2 Methods

### Semi-structured survey for local experts

As a preliminary study, we elaborated an online questionnaire that was spread among designated experts from the different PWR and beyond, to get a first primary input from the local stakeholders about most urgent local conflicts and their knowledge in this sense, and about ecological connectivity. This activity, on the basis of around 80 completed questionnaires collected, although not statistically significant for the number of respondents, gave us a general overview of the stakeholders' thoughts, involvement, knowledge, and opinion about ecological connectivity related conflicts in each of the PWRs of the ALPBIONET2030 project. After the survey, an internal confrontation with the ALPBIONET2030 partners has allowed the definition of the main conflicts to be discussed in each PWR.

### Workshops and interviews in PWR

Workshop and interviews, as the focal point of the activity, were conducted to collect objective and subjective data on the most urgent conflict(s) in each PWR (i.e. *what are they, are they being addressed, how are they being addressed, is there any improvement in the situation?*). By analyzing different points of views in the conflict, workshops and interviews provided the opportunity to deepen aspects of the human dimension in the discussed conflict. By confronting several stakeholders, our purpose was indeed to perceive their importance in the management of the conflicts, to estimate the influence of side effects and social (*human-human*) conflicts deriving from the primary conflict with wildlife, and to evaluate the importance of social factors defining the conflict and affecting its intensity. For the aim of Work Package 5, it was important to observe the local dynamics of interactions among different stakeholders. Questions that were posed to local stakeholders were, among others:

- *Is the selected conflict a problem in your area?*
- *How did you deal with the topic up to now?*
- *What are the consequences of this conflict for your daily work?*
- *What has been done so far to manage/solve the problem?*
- *Were you included in the process?*
- *What has worked? What has not?*
- *What could/would you do to improve the process and to manage the conflict?*
- *Are people aware of the issue we are discussing?*

### Final Questions (the Matrix)

At the end of the workshop, the stakeholders were invited to give comments on the work just done and to express their opinions on the effectiveness of the workshop itself and of the actual potentials for human-nature coexistence, by adding their vote to pre-listed answers of four questions (Table 1).

Table 1. The Matrix of questions asked at the end of the Workshops

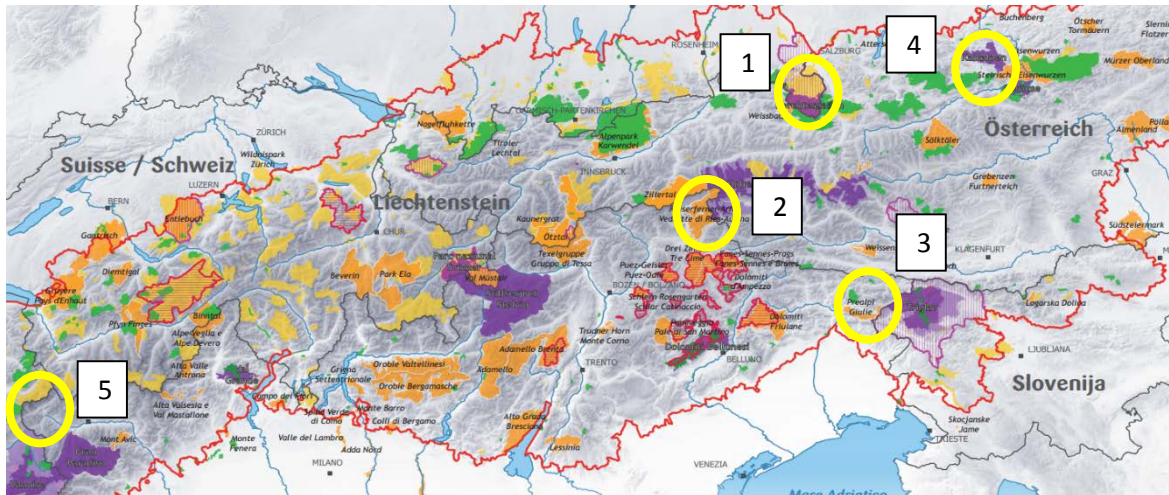
<b>a. Humans' activities and wildlife: is coexistence possible?</b>			
1 (no, either one or the other can be)	2	3	4 (yes, it is possible)

<b>b. This workshop was useful to understand the problem from another point of view</b>			
1 (not at all)	2	3	4 (Yes, a lot)

<b>c. The transnational dimension of the problem...</b>			
1. Add further difficulties to the problem			
2. Makes the problem easier to solve			
3. It is an opportunity to look for new solutions			

<b>d. I go out from this workshop with...</b>			
1. A better understanding of the problem			
2. More confused than before			
3. With new concrete ideas to face the problems			
4. Nothing more than before			

### 3 Results from project working regions



- 1 - Berchtesgaden National Park (GER);
- 2 - South Tyrol provincial Parks (IT) / Hohetauern National Park (AT);
- 3 - Prealpi Giulie Regional Park (IT) / Triglav National Park (SLO);
- 4: Kalkalpen National Park (AT);
- 5: Espace Mont Blanc (F).

### 3.1 Berchtesgaden National Park - e-bikes and wildlife management

**Date:** 27.09.2017

**Location:** Berchtesgaden, Haus der Berge (Nationalpark Haus)

#### Summary of the workshop

The workshop was the opportunity to sensitize different categories on different interests and discuss the potential impact of new technologies for mountain biking and E-bikes on wildlife management, leading to intense discussions finding a constructive communication base. Nine stakeholders, each one of them related to the topic in a different way, were present for discussion. These new technologies can allow a higher touristic usage and therefore can lead to a potential increased pressure on nature and wildlife in so far undisturbed sites (Fig. 1). A well-communicated visitor management is planned for ascent with E-bikes as well as for descent routes and “fair-play-trails” or downhill trails. In terms of wildlife management, current issues and first approaches were discussed between forestry, hunters, landscape conservation, tourism experts, German Alpine Association and bikers. According to the different groups, it was the first time that such an enlarged discussion was carried on, giving the opportunity to discuss different solutions and communication approaches at local level.



Figure 1 - Mountain Bikers ([www.ledauphine.com](http://www.ledauphine.com))



## INTRO

Berchtesgaden National Park is situated in the German Bavarian Alps (Fig. 2), near the border of Austria. In this preserved area, visitors, recreationists, foresters, hunters, and wildlife share the same environment. Interactions between these different actors are inevitable and their activities or particular needs are not always fully compatible. This can lead to the creation of conflicts, deriving from the comprehensive will to safeguard one's own interest.

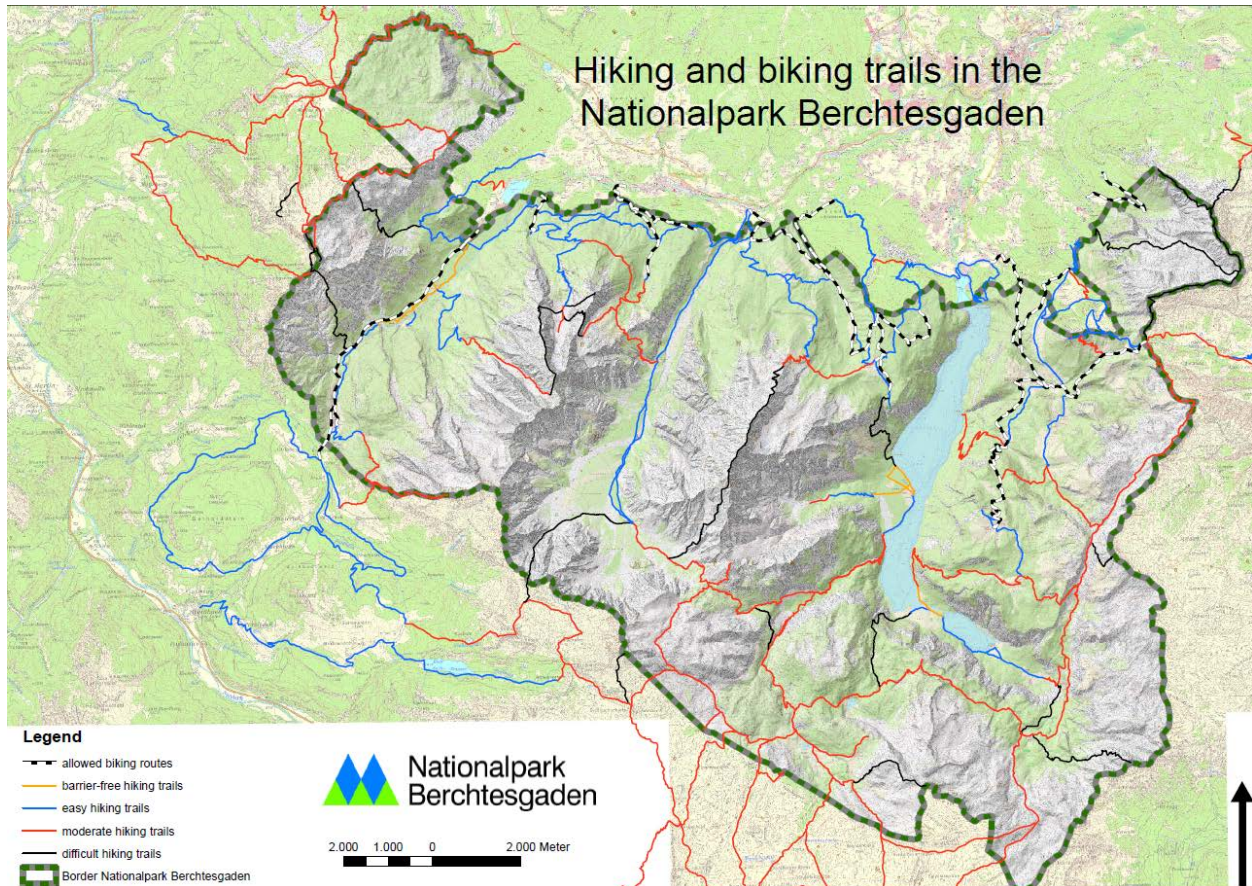


Figure 2 - Map of Berchtesgaden National Park and of the main bike routes (NP administration)

## Proposed conflict issues

The interactions with wildlife species were pointed as the most important and concerned human-nature conflicts (Fig. 3). Although not foreseen, local stakeholders and Park's managers chose to discuss the development of new technologies for bike tourism, which may result in an increased presence of visitors in remote areas. Local stakeholders like foresters and hunters were used to carry out their activities following the traditional use of the mountainous area - meaning to have defined areas for each activity that has not to be disturbed by touristic presence. Their main concern relies on the fear that their activities could be disrupted by these new tourism opportunities. The focus of discussion was on E-mountain bikes, a recreational activity seducing more and more people of all ages and background. Being democratized, the



use of E-mountain bikes results in both increasing the traffic and extending the use of mountain wild areas. Wildlife is therefore expected to experience more disturbance and a behavioural change.

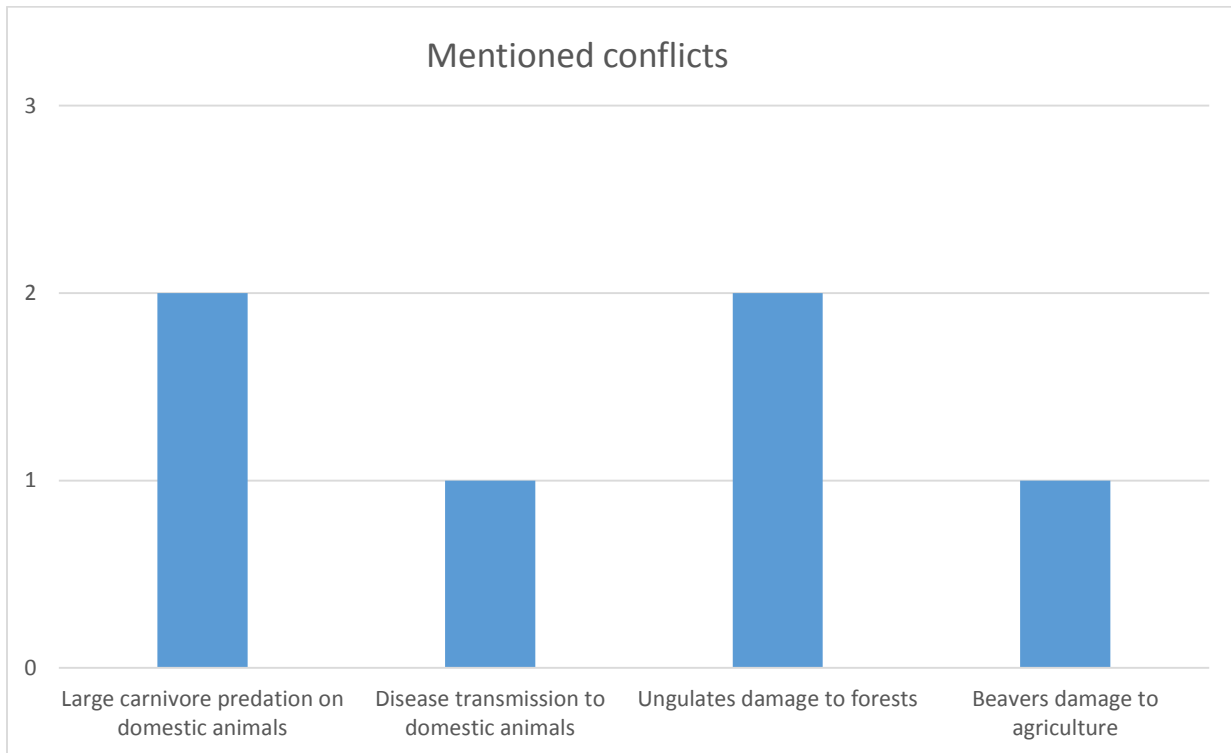


Figure 3 - Proposed conflict issues in Berchtesgaden National Park area

Raised questions to stimulate the debate were the following:

- *What can be the issues created by the increasing use of E-mountain bikes and the uncontrolled and unrestricted access to remote places it generates?*
- *How to accommodate the change it creates in term of land use share?*
- *What is the place of wildlife in this debate?*

### Berchtesgaden issue in WP5

The increased use of E-mountain bikes is quite recent and shows how fast and ineluctably territorial land use is likely to change by closely following economic sectors' development. This will have consequences on nature conservation, traditional activities and therefore on ecological connectivity. Changes can bring positive returns but first are expected to create tensions and resistances. Even in Berchtesgaden, where local actors are used to cooperate (<http://www.greenalps-project.eu/>), and tensions and conflicts over nature are very few compared to other alpine areas, new activities can create a disturbance to others' interests and rooted activities, like hunting. For the purpose of WP5, it was very interesting to observe the way stakeholders relate to each other regarding the new issues they are facing, and the consideration wildlife is granted when its habitat becomes a disputed object of socio-economic interest.

### Involved stakeholders and workshop approach

Nine participants have attended this workshop, providing an image of the main interests present in the area (Table 2). Local partners of the Berchtesgaden National Park chose the “Focus Group” approach -invited stakeholders were gathered around a table and the conflict issue was introduced by a general presentation of the ALPBIONET2030 project. Stakeholders were asked to present their own opinions and involvement on this specific issue, being free to talk and raise their own concerns.

Table 2: Participants to Berchtesgaden Workshop

Isidoro De Bortoli (EURAC)	Michael Gröll (tenant of a hunt)
Filippo Favilli (EURAC)	Florian Gottschlich (Bikecoach)
Hanni Eicher (German Alpine association)	Carolin Scheiter (National Park Berchtesgaden)
Ulf Dworschak (National Park Berchtesgaden)	David Schuhwerk (Naturpark Weißbach Austria)
Wolfgang Fegg (DVL - German Association for Landcare)	Hubert Reiter (Bayern National Forest office)
Wolfgang Feldbauer (DVL)	Sara Vezaro (EURAC)

### Report of the meeting

Current technologies may enable anyone to bike up on the mountain (*also old people and in general just more people*), which creates the first conflict issue. Nonetheless, this conflict is not related to wildlife presence but to the concerns, expressed mainly by hunters and foresters, about the traditional use of mountains that see tourists as a factor of disturbance. Local inhabitants expressed a sense of “belonging” and of “ownership” of the mountains, claiming a clear zonation of the Park in order to preserve “their” areas from the touristic presence.

The presence of recreationists in (former) remote areas, where only hunters used to go, creates tensions among stakeholders. The activity of hunting is indeed less favored in an environment where numerous visitors are evolving. As a result, locals want to be granted a special access right to areas that might turn in resting zones and then become restricted for conservation reason (*“these are our mountains” - cit.*).

The e-bikes and their use are indeed also a disturbance for wildlife. Bikes, unlike motor vehicles are silent and are usually given as an example of harmless activity to the natural environment tranquility. There could be however a possibility of higher disturbance for wildlife because bikes would actually surprise wild animals without giving them a chance to anticipate the danger since they do not make (*warning*) noise. The increase of traffic, which may push wildlife more inside forests, could also jeopardize the flora by increasing the impact of animals on the growth of trees and shrubs. The general statement was that forest protection must come before deer protection. The reason to this statement is the protection of forests, justified by the general view that forests “protect the mountain region”. Therefore, deer culling should meet the need to safeguard the forest. However, it is acknowledged that domestic animals grazing freely in nature areas create more damage in forest than wild animals.

## Conclusions and next steps

A fashionable sport, being supported through social media, could open the way to irresponsible practices because the spreading of awareness is not joined to the speed of the spreading of the practice. In reverse, the media could be used to promote awareness. Courses focusing on respecting the environment and teaching a safe way to ride a bike should be proposed.

At the end of the workshop, half of the participants reckoned to have new concrete ideas to overcome the issues they are facing.

The replies to the questions on the matrix (Fig. 4) revealed that:

- 1.1 The majority of the local stakeholders and/or representatives of economic activities believe in a positive coexistence between human activities and wildlife presence.
- 2.1 The organized workshop was rather useful to get another point of view on the issue - even because it was the first time, as said, that it was discussed in an enlarged environment.
- 3.1 A transnational approach is undoubtedly useful to look for new solutions and to make the problem easier to solve
- 4.1 The workshop was useful to provide a better understanding of the problem, even if in one case it created more confusion than clarity.

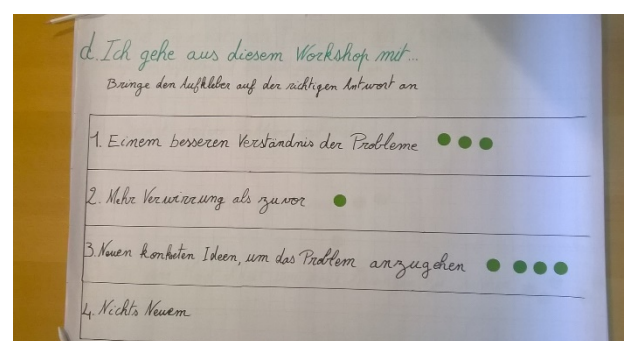
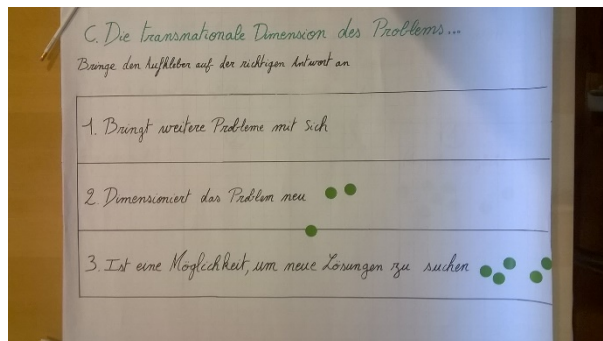
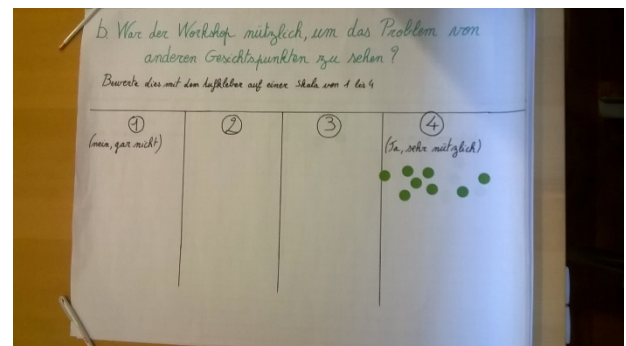
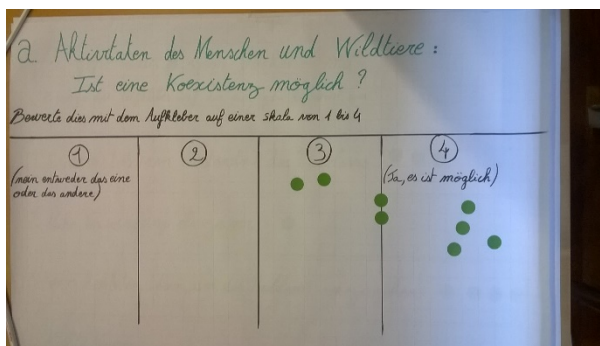


Figure 4 - Answers to the matrix of questions (in order question a,b,c,d, see general introduction)



## Main findings in Berchtesgaden

- New technologies for mountain bikes can open the door to irresponsible practices
- Local stakeholders and inhabitants claim a clear zonation of the Park to decrease the potential impact of tourism on traditionally used areas.
- Forest protection is a common interest among stakeholders. It has aroused as a common task from different viewpoints.
- Focus groups and stakeholders' meetings are essential to face new challenges and develop a mutual understanding of the different interests in the territory.
- In order to have a better overview of the situation, it will be necessary to involve several stakeholders of the same category. This will be essential to build a consistent and efficient participative strategy.
- It is fundamental to join the opening of this new touristic activity with a detailed study on the wildlife presence and movements in order to avoid an additional source of fragmentation and a barrier for ecological connectivity implementation.
- Future activities should concentrate on creating more opportunities for cooperation between the National Park and the local stakeholders, with further round-table meetings and intensifying communication.
- With the classification of sensitive areas for wildlife, already elaborated by the DAV (German Alpine Association), part of the proposition coming up was to install quiet areas with notice signs for recreationists by law. To preserve the area, existing path should be valorised instead of creating new ones.

### 3.2 *Hohe Tauern & South Tyrol - Paragliding effects on wildlife*

**Date:** 06.10.2017,

**Location:** Lienz, OstTyrol (AT)

#### Summary of the workshop

The aim of the workshop was to discuss with different kind of stakeholders the potential impact of paragliding activities on deer and chamois disturbance, which can have a negative effect on forest regeneration. The topic was brand new for the area and the invited stakeholders were gathered for the first time to discuss this issue. The general approach and atmosphere was very good. Participants had the aim of understanding the different needs, issues and interests of the other groups and find a common solution. Sport activities in these areas are of great economic importance, therefore this workshop got the attention of several institutions and interests groups.

The workshop was conducted with a general introduction by Eurac, followed by a presentation on the potential impacts of sports activities and paragliding on wildlife presence, movements and behavioral changes - although not reliable scientific sources are currently at disposal to sustain this hypothesis.

The general discussion was organized dividing the participants into small groups, according to their belonging category (paragliders, foresters, hunters, nature protectionists) - so that each group could build its own position.

After that, a general discussion was conducted, where new issues emerged that were discussed in two new working groups, one about the knowledge that needs to be generated and one on the specific issues related to the most used valley of paragliding utilization.

#### INTRO

The Project Working Region of Hohe Tauern National Park (AT) and South Tyrol (IT), expanded on each side of the Italian/Austrian border. This PWR is constituted by two different national areas that share the same language. The National Park Hohe Tauern is located in the administrative regions Osttirol (East Tyrol) in Austria. Due to the close proximity with South Tyrol (Italy), the two regions have a long history of cooperation in terms of wildlife monitoring, nature protection and touristic activities. A common transnational topic was chosen, that allowed to gather the stakeholders around the same table of discussion. The Hohe Tauern National Park is an attractive destination for outdoor sportspeople to enjoy peace, experience nature and find some balance to everyday life. Natural and near-natural cultural landscapes are coming under strong pressure due to the increase in settlement, traffic and infrastructure construction and the intensification of agriculture and forestry. The habitat for plants and animals is getting ever scarcer. The area is famous for its predisposition to sports activities, especially to paragliding, due to its extension and wideness. This central alpine region attracts a significant amount of tourists, both from the surroundings and from other countries. The National Park administration and the paragliders' groups have a mutual interest in preserving the attractive natural landscape in the Hohe Tauern area. In order to avoid potential disturbance of the wildlife, guidelines and maps showing also no-fly zone (See Fig. 5) were



drawn up by topics in consideration of the special requirements and vulnerabilities of protected species. The workshop was the opportunity to raise awareness of the different categories on their potential impact on nature - so, not only for paragliders. On one hand, paragliders claim that there are only 15 days per year with favorable weather conditions for their activities. On the other hand, there is an increasing number of people using nature for recreation, with increasing tendency for future years, if no strict limitations will be adopted.



Figure 5 - No-flight zones in Hohe Tauern National Park

### Proposed conflict issues

The stakeholders' survey in this PWR (Fig. 6) highlighted the concern about the increase of recreational activities and the negative interaction between predators and economic activities. The activity of paragliding has recently started to spread in the Hohe Tauern/South Tyrol area. Paragliders' routes usually start from South Tyrol in Italy to land in Hohe Tauern in Austria, mainly in the Deferegggen Valley (Fig. 7)

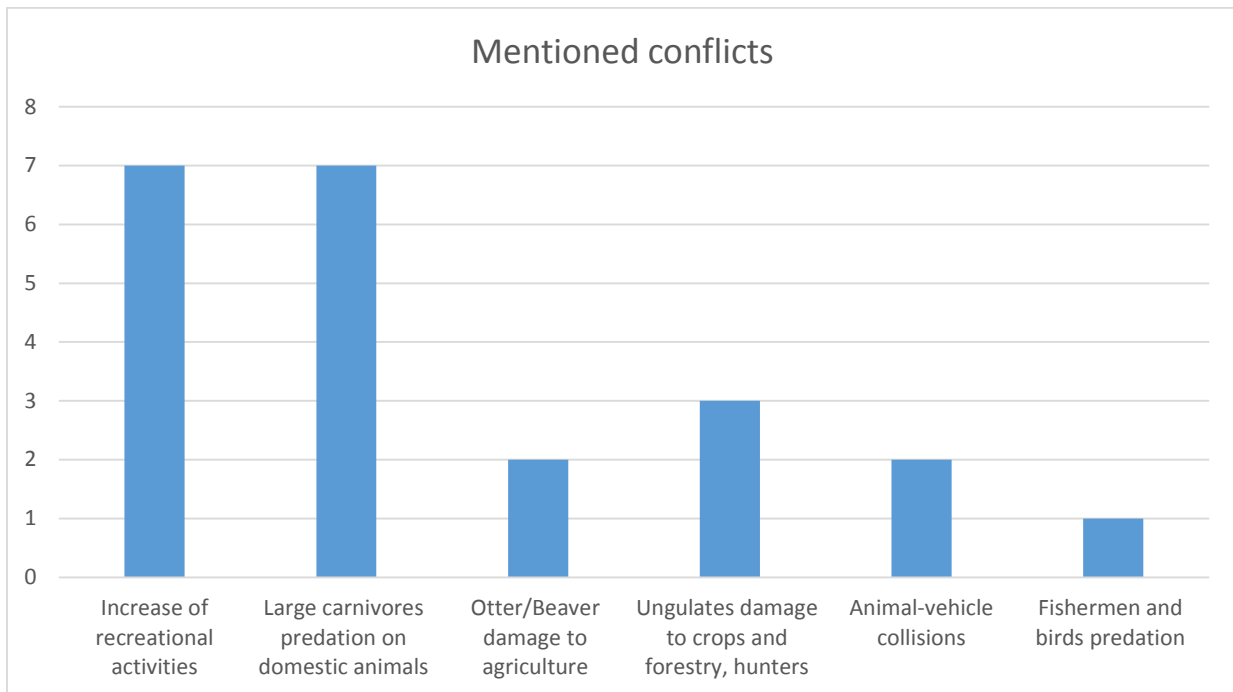


Figure 6 - Proposed conflicts in the Hohe Tauern/South Tyrol Project Working Region

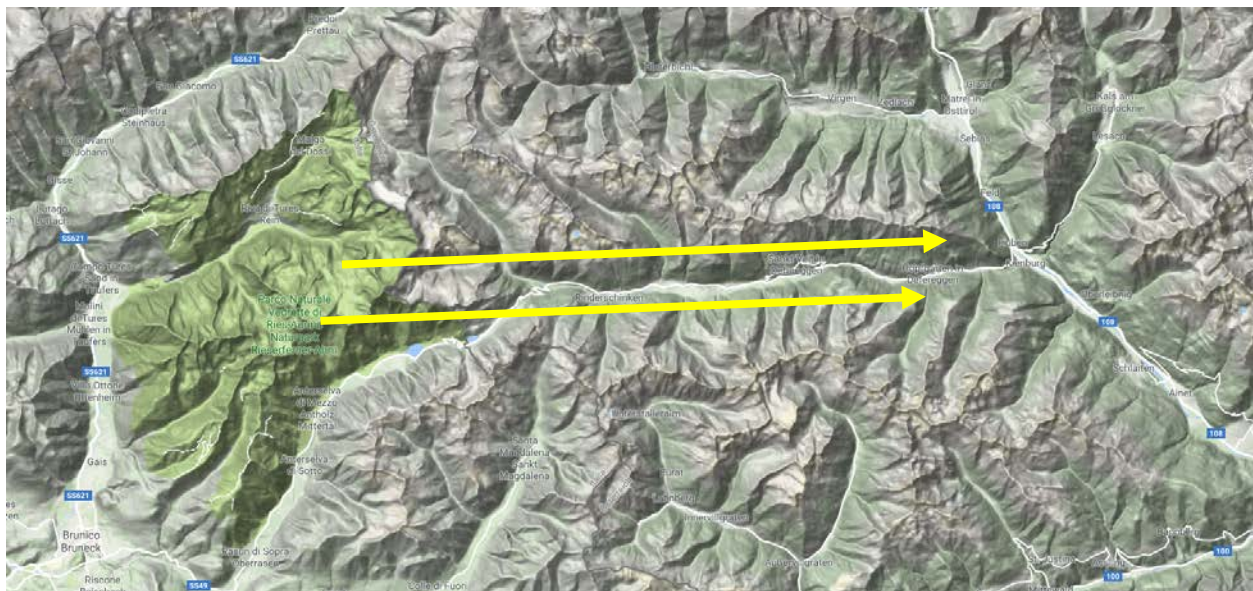


Figure 7 - Main flight route from South Tyrol to Hohe Tauern

The potential chain reaction of the paragliding activity impact was highlighted. There is a general concern about this activity regarding the fact that paragliders frighten terrestrial wildlife, pushing it down the valley or inside forests, where it will ultimately create damages to economic activities. It would also result in decreasing the level of protection that is assigned to some forest areas. Different categories of stakeholders (e.g. hunters, foresters) reported some negative disturbance of their activities due to the presence of paragliders disturbed deer.

The distance (200-300km) and the duration (10h) of the flights are questioned in their impact on wildlife presence and dispersal.

### Hohe Tauern/South Tyrol issue in WP5

Even though there is a lack of scientific data confirming the phenomenon, the impact of disturbed wildlife on economic activities is acknowledged and experienced among stakeholders (i.e., Cremer-Schulte et al., 2017). As for other fashionable outdoor activities, paragliding is attracting more adepts every year, which might increase disturbance. The advance in the use of social networks and their potentials to reach increasing numbers of people, is suspected to strongly participate in opening the access to this discipline to more people who are less trained or whose practice is less mindful. New routes of flight are also likely to be created. The flight traffic related issues go beyond wildlife disturbance but regards mountain area conservation and use in general terms. There is already a will to develop a common understanding of the problem with the interested parties and enhance a transnational cooperation. According to local partners and employee of the National Park Hohe Tauern and of South Tyrol Provincial Parks, only a first discussion table took place but no further encounters followed afterward. The purpose of this workshop was therefore to re-engage a conversation that could be sustained in the future in order to find agreed solutions and adapted means to overcome the issues.

### Involved stakeholders and workshop approach

Twenty-five people attended the workshop from both Italy and Austria (Table 3). The great number and high representation of stakeholders' categories demonstrate the great importance this topic has for the region, either locally, and in a transnational way.

Table 3 - Participants to Hohe Tauern / South Tyrol Workshop:

Federica Maino (EURAC)	Filippo Favilli (EURAC)
Prune Claire Giatti (EURAC)	Markus Lakuner (National Park Hohe Tauern)
Herbert Siess (Chello AT)	Andreas Agreiter (South Tyrol Hunting Office)
Markus Kantioler (South Tyrol Hunting Office)	Margaret Pallhuber (South Tyrol Parks' office)
Mauro Pianaro (Para Club FD)	Kurt Eder (Para Club FD)
Christian Gasser (Para Club FD)	Sara Vezzaro (EURAC)
Horst Mitterberger (Lienz city administration)	Martin Burger (South Tyrol Forest Office)
Günther Pörnbacher (Forest Office Welsberg)	Alois Messner (Hunting Office Antholz)
Fabian Pallhuber (Techem)	Karl Kleinlercher (Forest office Osttirol)
Robert Ladstätter (wildlife manager St Veit)	Wendelin Ortner (Paraglider)
Stefan Fercher (paraglider)	Daniel Kofler (paraglider)
Alois Resinger (Paraglider)	Martin König (Hunting office Osttirol)
Gunther Gressman (National Park Hohe Tauern)	

Local partners of the PWR Hohe Tauern / South Tyrol decided to discuss with local stakeholders using the "thematic groups" approach. After a plenary with the general introduction to the ALPBIONET2030 project, the topic of wildlife disturbance was introduced by an external moderator. Distance paragliding (which is allowed in the protected area of Rieserferner-Ahrn



and Nationalparks Hohe Tauern) is generally taking part at certain heights, but sometimes it can happen that while searching for thermic currents the paragliders fly not very high and close to the mountains.

After the introduction, stakeholders were divided into groups of interests with the aim to define a clear position and vision of their category on this issue. After a new plenary, stakeholders were again divided into two small groups, one focusing on the main used valley by paragliders, and one discussing the potential environmental impact of sports activities in the area. The workshop wanted to point out the new issues related to an increased use and presence by tourists and paragliders.

### Report of the meeting

The different categories of stakeholders explained their concerns and issues related to paragliding. A general fear is, of course, the fact that an increased presence of paragliders may jeopardize traditional activities. Paragliders consider it very important to raise awareness on their topic towards other land users. For them, it is fundamental that people know what they are doing and what paragliding is. They are aware of the fact that paragliding can have a problematic impact, but up to now information are not fully reliable. There is the need to know when and where their activity may create higher impacts on wildlife.

Hunters, in particular, expressed their concerns, highlighting the fact that they have quota to reach in term of number of prey and that they have a responsibility in forest protection. The multi-use of nature (paragliding is just one of them) is a general problem for them. Hunters' managers claim that they are responsible for the damages caused by deer on forest and crops and that hunting is an activity that also requires an investment. Summing all these concerns, hunters would like to concentrate the uses and the users in specific areas and time, creating protected areas for wildlife against paragliders. They ask for financial compensation for killed animals, and for damage caused by deer.

Foresters push for action only on local spots like Defereggental, Zettlersfeld and Kals, since they are directly related to the damages to the protection forests done by frightened deer and chamois. People involved in nature protection ask for more detailed studies on the potential impact of sports activities and mountain use on each wildlife species present in the area.

### Conclusions and next steps

The matrix (Fig. 8) answers highlighted that:

There is no clear statement however on the possibility to cohabit with wildlife. None of the stakeholder manifested himself as optimistic or pessimistic toward human wildlife coexistence (a). A majority of participants (13/21) said the meeting has enabled them to gain a better and broader understanding of the issue (b). Stakeholders have a general positive attitude towards the transnational nature of the issue since they reckon that such a situation can bring new opportunities of understanding and development (c). Fewer (7/21) asserted it gave them new concrete ideas to overcome the problem. Only one person said the workshop did not bring anything new to the debate (d). Accordingly, the opinion poll showed that at the end of the meeting stakeholders had been able to view the issue that they are facing from another point of view. There is indeed an intention to proceed with other meetings and broaden the exchange with other categories of stakeholders such as tourist representatives

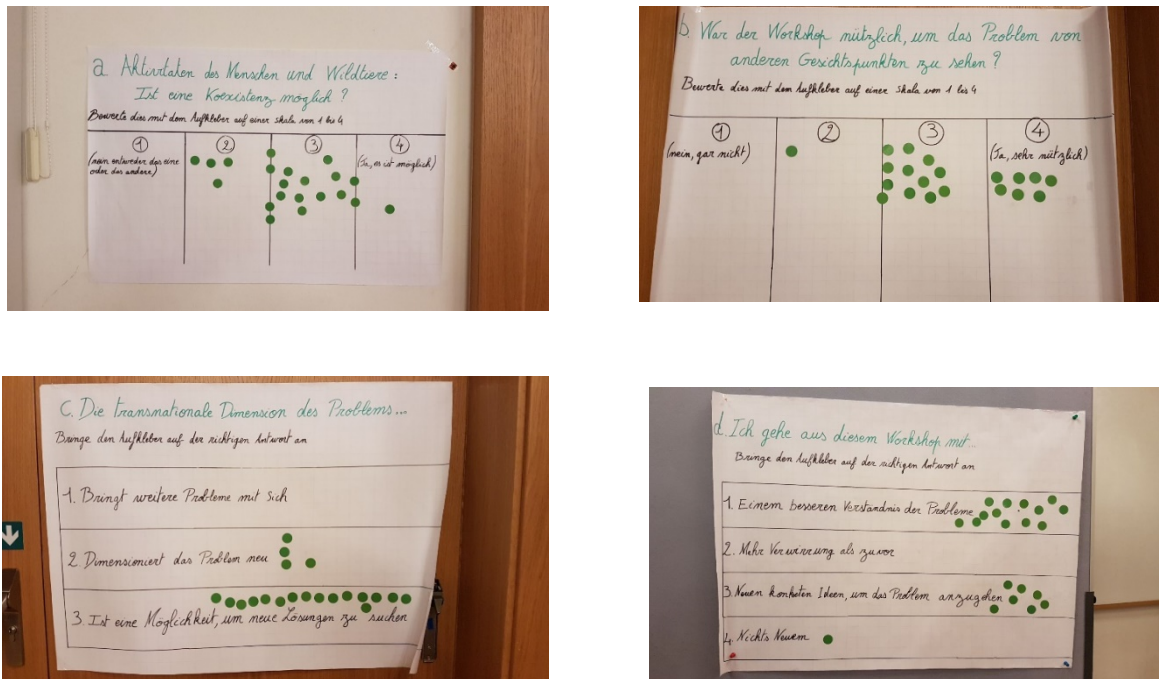


Figure 8 - Answers to the matrix of questions (in order question a,b,c,d, see general introduction)

## Main findings in Hohe Tauern / South Tyrol

- There is a need for data showing the level of disturbance caused by the flight duration, distance and height, but also on the impact of disturbance of chamois on forest conservation
- Data collection could be done by analyzing websites on paragliding, using webcams that take pictures to show how intense the traffic is on certain days.
- The surveys are needed to legitimate and adapt the answer to the paragliding issue in the territory.
- Hunters complain that a recreational activity, such as paragliding, that is likely to disturb wildlife, may also have an impact on their ability to catch the game
- To reduce the traffic, for example, the starting point accessibility should be limited to pedestrians.
- Paragliding should be allowed on a seasonal basis and within a limited duration.
- According to paragliders, a good practice of the sport together with awareness can lead to avoid provoking the "escape response" of deer.
- A course on wildlife presence could be included in the requirement for getting the flying license. This would give the care about wildlife disturbance a prominent and bounding aspect.

### 3.3 *Prealpi Giulie & Triglav - Pasture use, livestock breeding, interactions with ungulates and large carnivores*

**Improve the local and transnational cooperation to face the new challenges and promote regional development**

Date: 06.10.2017,

Location: Venzone (IT)

#### Summary of the workshop

The aim of the workshop was to discuss with different kind of stakeholders how to cope with the high presence of ungulates locally and in the transnational environment of Prealpi/Triglav. The participants discussed on carnivores' predation, ungulates grazing and the transnational management of pastures. The topic was not new in this area, but local partners have enlarged the invitations, also due to the presence of the European Platform for Coexistence with Large Carnivores, allowing a greater discussion with a vaster number of perceptions and opinions.

The workshop started with a general introduction by Eurac.

Stefano Santi, Director of the Prealpi Giulie Natural Park, introduced the main issues for the Prealpi Park, going from large carnivores' predation to the carrying capacity of pastures.

Andrej Arih from Triglav NP concentrated more on the management of ungulates, whose grazing creates problems on forest renovation and to orchards.

Sara Vezzano of the Villaggio degli Orsi (*bears' village*) made an overview of the protection and mitigation systems currently available, stressing the need to have a common protocol and agreement between the two countries.

Participants discussed these issues and were then split on 3 round tables, each one with a moderator, in order to discuss the following topics:

1. Compensation and Prevention (moderator: Isidoro De Bortoli, Eurac)
2. Communication and Education (moderator: Sara Vezzano, Villaggio degli orsi)
3. Data Exchange (moderator: Stefano Santi, Prealpi Giulie Natural Park)

After that, a general discussion was held, where new issues emerged that were discussed in the plenary in order to define future steps and common agreements.



## INTRO

The Pilot Region of the Eastern Julian Alps is located around the Italian Prealpi Giulie Nature Park and the Slovenian Triglav National Park (Fig. 9). It covers an area of 289.660 ha. The Slovenian side covers the entire area of the Triglav Hunting Management Area (141.461 ha) and part of the Gorenjska Hunting Management Area (31.050 ha), which lies within the borders of the UNESCO Man and Biosphere Reserve Julian Alps but outside of an area of hunting management units covering the Karavanke mountains. On the Italian side the entire area of the Tarvisiano Hunting District (117.159 ha) is included, which covers altogether 13 municipalities. The relationship between the two partners is very close and the area composed by Julian Prealps Nature Park, Triglav National Park and Slovenia's Julian Alps MaB UNESCO area has been certified by Europarc as "Transboundary Ecoregion" in 2009. In this territory we find high mountains and green valleys, richness of wildlife and flora with increased levels of biodiversity and villages where old traditions and manufacturing of exclusive typical products are still alive. In 2014 certification was confirmed and the Alpine Convention proclaimed the whole area of two parks as a "Transboundary Pilot Region for Ecological Connectivity".

Due to the wilderness of large part of this territory the whole pilot region represents an extraordinary place for mobile species like birds (e.g. griffon vulture) and big mammals (e.g. large carnivores).

At the end of 2016 the Transboundary Ecoregion Julian Alps was certified with the European Charter for Sustainable Tourism. The Charter is both an important recognition of the work done and a model of governance that delivers Protected Areas as sustainable tourism destinations. Collaboration between Prealpi Giulie Nature Park and Triglav National Park is widely recognized as a best practice example of transboundary cooperation.

### Proposed conflict issues

The stakeholders' survey (fig. 10) highlighted that the interactions with large mammals are among the most urgent causes of conflict for the transnational area of cooperation. Local partners decided to concentrate more on the management aspects of pastures, livestock breeding, ungulates and large carnivores' transnational management, with the aim to enhance local and transnational cooperation to face new challenges and promote regional development.

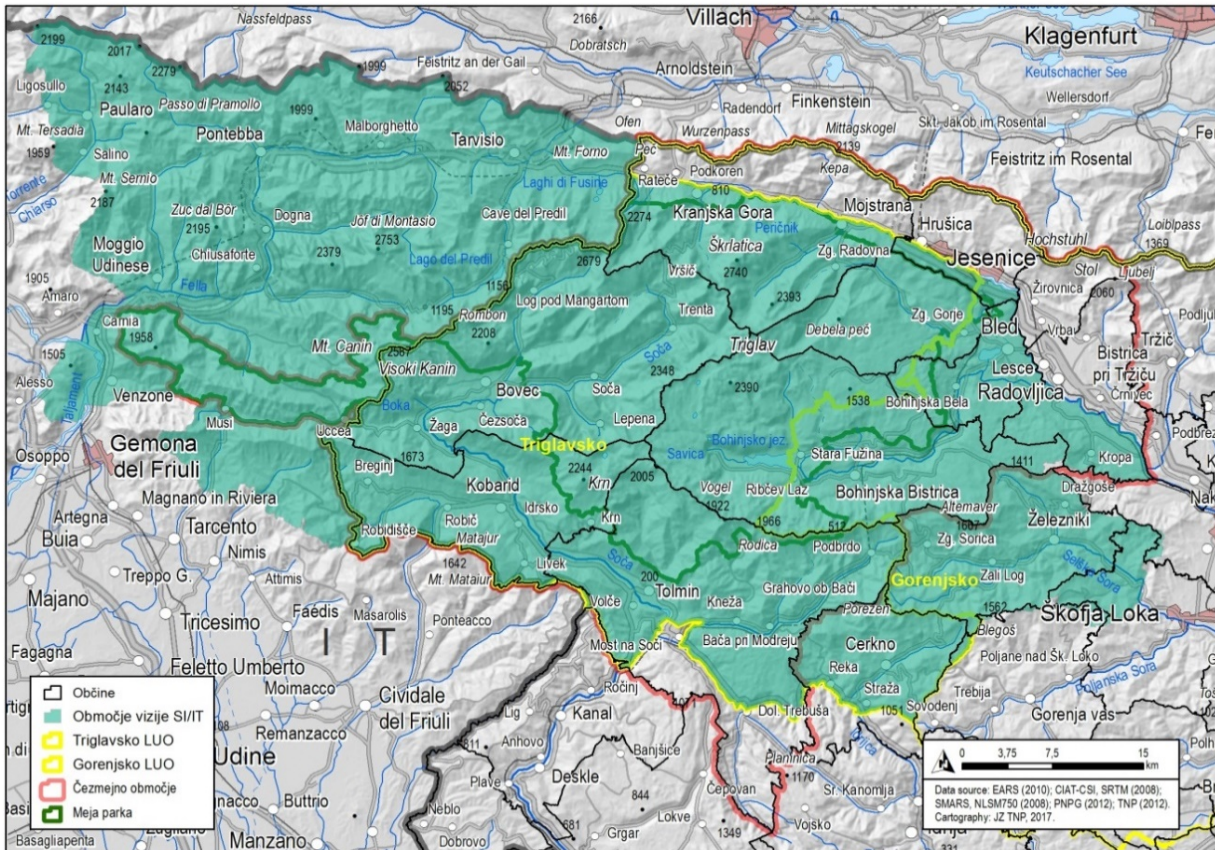


Figure 9 – Area of the Prealpi Giulie Natural Park and Triglav National Park

Large carnivores' predations happened frequently in the last years within the transboundary region and represent a "hot" argument of discussion in both Parks. Farmers, private owners, local communities, and institutions are very interested to get as much information as possible to understand how they can contribute to manage this issue and reduce the current impact of the conflict. Local stakeholders appeared to be highly involved in the local and transnational management process.

Free-ranging herds (Fig. 11), passing also through villages, create complaints by local inhabitants. This is another interesting conflict that local authorities of the two parks are facing. The Prealpi Giulie Natural Park has established specific rules for those operating within its perimeter. Shepherds have to communicate detailed information about their presence in the park, but up to now only poor information are available for local authorities. Local hunters claim the risk of disease transmission between sheep and goat with wild ungulates. Domestic sheep and goats commonly carry these disease-causing organisms, which also typically cause few deaths and little illness in domesticated adults and lambs.

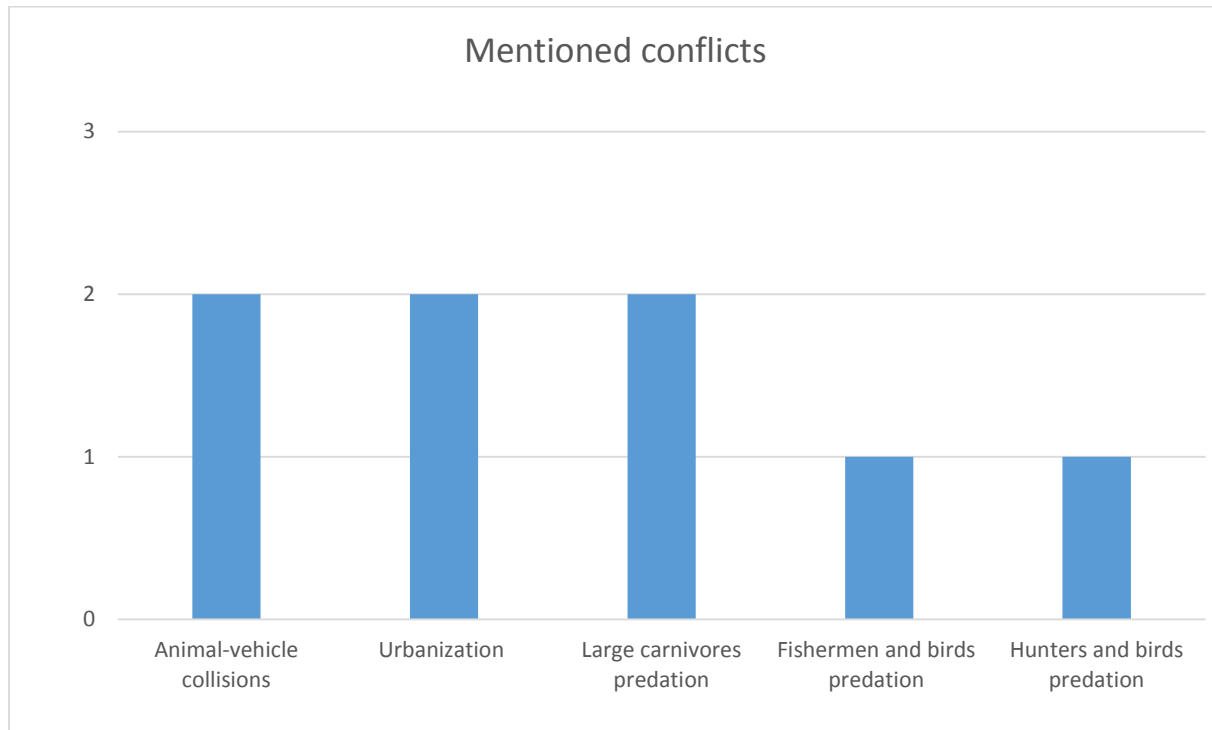


Figure 10 - Proposed conflicts in the Prealpi Giulie / Triglav Project Working Region

In Triglav National Park, where free-ranging herds is a traditional practice, wild ungulates graze on forest renovation and orchards, causing a serious and relevant damage. Furthermore, potential inter-breeding between wild and domesticated animals is common.

In general, in both areas there is ongoing work about mitigation and social measures. Both areas have an agreement to understand and solve the human-wildlife conflict. The technical methods are the most important. Key stakeholders have been involved in both areas thanks to communication and awareness campaigns in some activities. Prealpi Giulie Regional Park also made guidelines promoting the exchange of information between stakeholders.

### Prealpi Giulie/Triglav issue in WP5

The workshop has been designed to be inclusive and ensure an integrated audience of stakeholders. A primary purpose of the workshop, for both parks, was to facilitate multi-stakeholder dialogue: in this respect, farmers, experts, shepherds, and local authorities played a crucial role, presenting their views and sharing their practical expertise on the subject. Within the WP5, the most important purpose is to enhance the cooperation between the two parks promoting sharing of data and experiences.





Figure 11 - Free ranging herds of goats in Prealpi Giulie Natural Park (credits: Parco Regionale Prealpi Giulie)

### Involved stakeholders and workshop approach

Many participants (27, Table 3) have attended this workshop, among which parks employees, farmers, people coming from University of Udine, Agriculture Institute of Slovenia, EU platform of coexistence, Federparchi, Forestry department and shepherds. The workshop took place together with the Regional Workshop of the “EU Platform on coexistence between people and large carnivores”, a thematic networking event organized in the context of the Natura 2000 Biogeographical Process. The main issue was to create a more effective management and protection of large carnivores, in coordination and with the involvement of the European Platform on coexistence between people and large carnivores and the WISO Platform of the Alpine Convention. It was a good opportunity to further discuss the relationship between human and large carnivores and to share good practices for a better management of species and for the prevention and resolution of conflicts across the EU keeping in mind the objective of ALPBIONET 2030.

Table 3: Participants to the Prealpi / Triglav Workshop

Federica Maino (EURAC)	Filippo Favilli (EURAC)
Isidoro De Bortoli (EURAC)	Cristina Comuzzo (Villaggio degli Orsi)
Paolo Benedetti (Regione FVG)	Andrej Arih (Triglav NP)
Alessandro Bonati (Coldiretti)	Alessandro Manzano (Ape Carnica Friulana)
Tasos Hivardas (EU PF Coexistence)	Stefano Snati (Prealpi Giulie NP)
Irena Bertonceni (Agricultural Institute Slovenia)	Sara Vezzano (EURAC + Villaggio degli orsi)
Rayna Harizanova (Federparchi)	Marta Pieri (University Udine)
Andrea Beltrame (Prealpi Giulie NP)	Leonardo Cerno (Prealpi Giulie NP)
Verdiana Morandi (Ass Pastori transumanti triveneto)	Giancarlo Morandi (Ass Pastori transumanti triveneto)

Anna Zuliani (University Udine)	Marco Dilenardo (Prealpi Giulie NP)
Marko Pretner (Triglav NP)	Ziva Boncina (Forestry service Italy)
Andrea Repe (Forestry service Italy)	Giuliana Nadalin (Regione FVG)
Graciela Benegas (Az Agricola La Alegria)	Marta Trevisan (Villaggio degli orsi)
Matevz Jersin (Triglav NP)	Peter Skoberne (Min. Env. Spat. Plan SLO)

## Report of the meeting

The first part was characterized by a plenary session where stakeholder discussed the main topic described in the introductory presentations. Both parks authorities agreed with the need to have a common database to share data and practices, bearing in mind that data protection is very important. The University of Udine pointed out that farming systems are very different in Slovenia and in Italy. It could be interesting to describe the different systems in order to analyze and choose the best practices for a common management between shepherds, researchers, parks' managers and hunters. Prof. Filacorda of Udine University proposed to map holding's *livestock* covered by these two parks. Hunters have to be integrated into a management plan which should include both livestock and large carnivores. It is very important to define the best way to communicate to local people all the activities described. The perspective of local communities is very important and provides the human dimension that often is still underrepresented in wildlife management plans. Another important aspect underlined is the compensation system for farmers. Administrations have to pay attention to the actual damages, which sometimes may appear different from the actual loss. Cases of indirect damages such as abortion and loss of condition due to stress are difficult to assess, especially for sheep and goatherds. Farmers are, anyway, responsible for carcass disposal. In regards to livestock management, the morphology of the land may represent an obstacle. The difficulties exposed in past years still exist and solutions proposed during past years don't work because the landscape is very "mountainous" and complex. When the flock is too big, even with fences, it is difficult to move and protect sheep.

After the plenary, the stakeholders were split in "round tables" of interest:

### ROUND TABLE 1: "Compensation and prevention"

The round table on compensation and prevention measures discussed on the need to spread correct information about the actual opportunities in this regard and to promote a closer collaboration between livestock breeders and crop producers. The Wildlife Damage Compensation Program of the Friuli Venezia Giulia (FVG) Region is available for all farmers who suffered crop or livestock losses due to wildlife and can compensate up to 100 percent of economic damages without any additional cost. The FVG Region is playing a key role in this issue, although someone complained about a lack of interest in protecting small categories. The Regional administration needs to receive information from the people working on the ground, following a bottom-up approach, in order to stimulate mutual communication and benefits. Ideas came out to create a "risk map" in respect of typology of livestock, analyzing in detail the structure of every farm/company. Guardian dogs could represent a solution but involve a large amount of work and may represent a potential danger for tourists.

Communication plays also a very important role in the prevention system. In Slovenia and Trieste, “Kmecka Zveza” (farmers’ association) is a good practice to support farmers while coordinating different agricultural associations (<http://www.kmeckazveza.com>).

This kind of bottom-up approach model could be copied and adopted.

Additional claims came from the absence of prevention strategies in areas closer to an actual risk of predation. Local culture and grazing traditions foresee the grazing of flocks without the presence of shepherds. This traditional activity is difficult to change, but it is something that they all need to overcome. When tradition meets modernity, a compromise is necessary.

#### ROUND TABLE 2: “Communication, education”

The round table discussed on how to raise awareness about large carnivores’ management among large public. Farmers have to be aware of the new solutions in pastures management, finding, with wildlife specialists and local administrators, the best way to change rooted traditions of leaving herds grazing alone. Livestock often crosses private and public properties, causing several serious complains and conflicts. This situation has created a pretty low level of acceptance that needs to be improved. An idea accepted by the participants is foreseeing the mapping of moving herds. This kind of map would allow the parks and the local administrators to know passages and movements in a time-limited range. This kind of activity would be also important to enhance the transnational cooperation. People and stakeholders ask for a more comprehensive information on the pastures’ utilization and on its relation with tourism and other economic activities.

#### ROUND TABLE 3: “Data exchange”

This round table underlined the need to develop and share a common database, containing several information (collared bears for example), taking into account and capitalizing the experiences and results from the LIFE Dinalp Bear project and/or other EU projects dealing with the transnational exchange of experiences and common methodological approach in wildlife management.

This kind of database should not focus only on large carnivores but also on other species (for example chamois and alpine ibex - as stated in WP T2 or red deer), providing different kinds of accesses for different people, from the large public to the researcher. Participating stakeholders and experts agree on the need to develop such a database with the help of the Park administration and as a potential new transboundary project.

#### Conclusions and next steps

Participants stressed the importance of involving hunters in monitoring and managing ungulates and large carnivores - also in preparing common databases in other already ongoing projects (ex. Nat2Care, Italy - Slovenia Interreg programme) - and to enlarge transboundary coordination of some activities.

The matrix (Fig. 12) showed that:

- a) Stakeholders (farmers, shepherds and hunters) show a positive attitude towards a potential coexistence between human activities and wildlife - taking the commitment of changing some of their habits.

- b) Most of the participants believe that this kind of workshop provided a way to better understand the different issues, opening minds to different points of view.
- c) All but one person believe in the opportunity given by the transnational cooperation in managing and solving the different issues that rose.
- d) Participants left the workshop with different opinions. The majority replied to have a better comprehension of the problem and new ideas to face them.

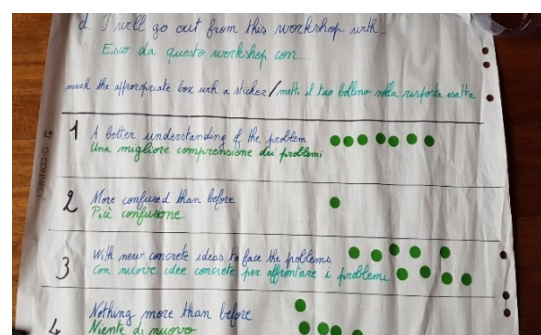
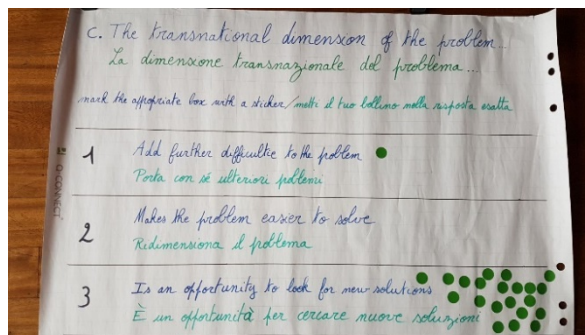
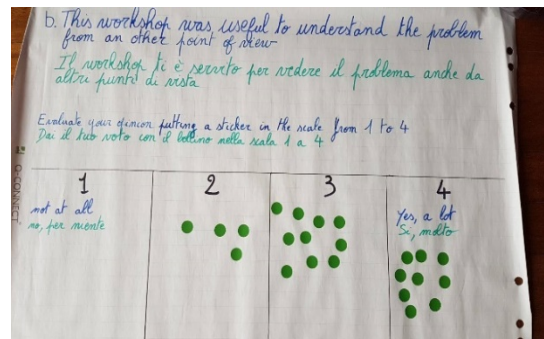
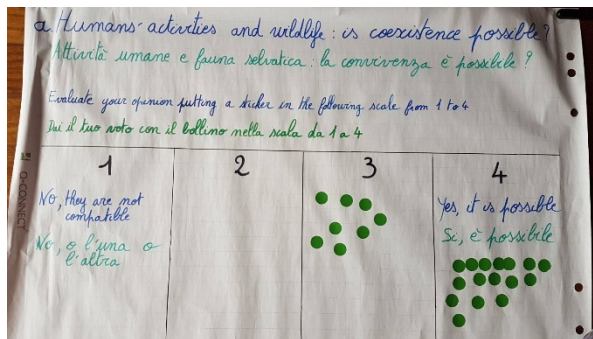


Figure 12 – Answers to the matrix of questions (in order question a,b,c,d, see general introduction)



## Main findings in Prealpi Giulie / Triglav

- There is an urgent need to improve communication and cooperation between institutions and farmers, also to avoid frauds in incentives/compensations requests.
- Tourists and local residents should be educated to respect wildlife, by spreading information on occurred accidents/predations through the development a common “accidents map”.
- It is important to understand and study the differences between livestock production systems.
- Herds need to be monitored, creating maps and enlarging the group of cooperating shepherds and farmers.
- It seems also fundamental to develop a functional communication tool, able to make local communities and private owners aware of livestock passages.
- Young generations should be informed on the local and transnational importance of these jobs, promoting an active cooperation between the two countries.

### 3.4 *Kalkalpen National Park - Shared management and responsibility of protected species*

#### *The role of the Protected Area in the reintroduction and management of wildlife*

Date: 24.10.2017

Location: Molln (AT)

#### Summary of the workshop

The workshop was organized with the aim to discuss the current social acceptance of large carnivores and define a potential shared management between stakeholders and the National Park. Several meetings on this topic have been conducted so far to reinforce the local cooperation and the engagement of stakeholders in regards to large carnivores.

The workshop started with a general introduction by Eurac. Christoph Nitsch of the Kalkalpen National Park introduced the main topic of large carnivores' management and on tourism potentials.

Twelve participants discussed around a table to highlight the main issue regarding large carnivores' presence and potentials in this PWR.

The number of participants was not really high, and the topic not new in the region, so, no new proposals were generated, but stakeholders had a more positive attitude regarding coexistence potentials and shared management. The discussion focused on shared management, social acceptance, touristic promotion, coexistence and countermeasures to poaching.

#### INTRO

The Park is located in the Upper Austria, and contains Central Europe's largest forested area (fig. 13). It is one of the most suitable area for the presence and dispersal of large carnivores. The region Oberösterreich is very active in the topic of large carnivore's management. From 2011, the remaining population of lynxes was supported by the release of other individuals inside the park in order to avoid the extinction of the species in the area. Meanwhile, an ad hoc group composed by local stakeholders was created in order to involve prominent stakeholders in the management of the lynx. Likely to attack domestic animals and to affect wild ungulates population carefully managed by hunters and for hunting reasons, the reintroduction and the presence of the lynx is indeed a source of controversy.

Several cases of poaching of lynxes were discovered and the topic has become a crucial issue in the area. The discussion table called the LUKA working group has been working for six years to enhance the cooperation between hunters, NGOs and researchers. Due to a lack of data and knowledge, it seems complicated to reach the constructive dialogue needed to overcome conflicts of interests. Surveys have shown a clear position against the removal of the lynx among the population.

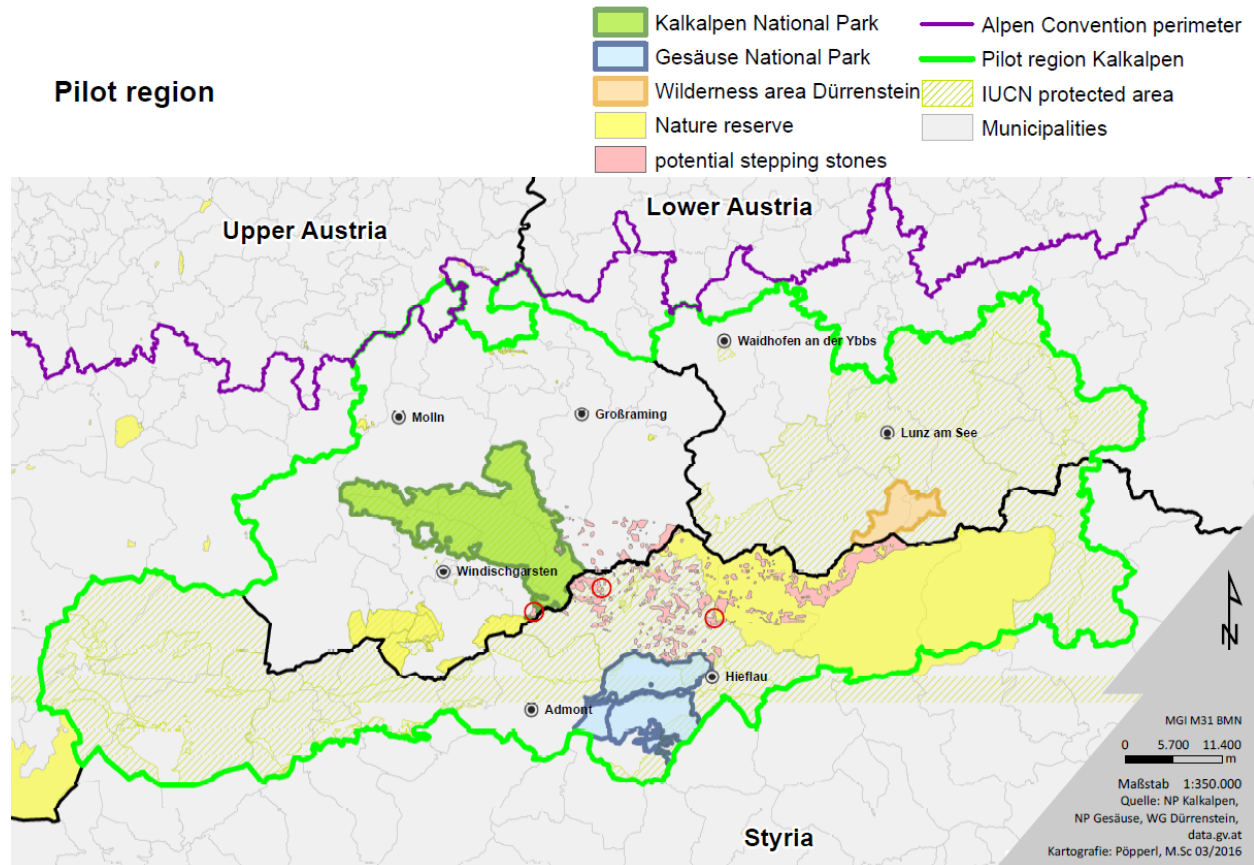


Figure 13 – Area of the Kalkalpen National Park

## Proposed conflict issues

The experts' survey (Fig. 14) highlighted, as in Prealpi Giulie, the human-wildlife interactions as main conflict for the area. Predation and poaching, as well as animal-vehicle collision, are reported as most urgent issues to concentrate on.

## Kalkalpen issue in WP5

In Kalkalpen, the main issue related to human-wildlife conflicts regards the management of protected species such as the lynx and the closely related activities against poaching. In this area, the human dimension of the conflict is apparent: the tension between the different of local stakeholders (e.g. environmentalists, the National Park, administrations and hunters) on this regards is a fundamental issue to take into account in order to define an adequate management of wildlife that could allow the enhancement of ecological connectivity. The site visit was oriented to discuss the development of a common understanding of the problems with the interested parties and stimulate the will for a better local cooperation on these issues.

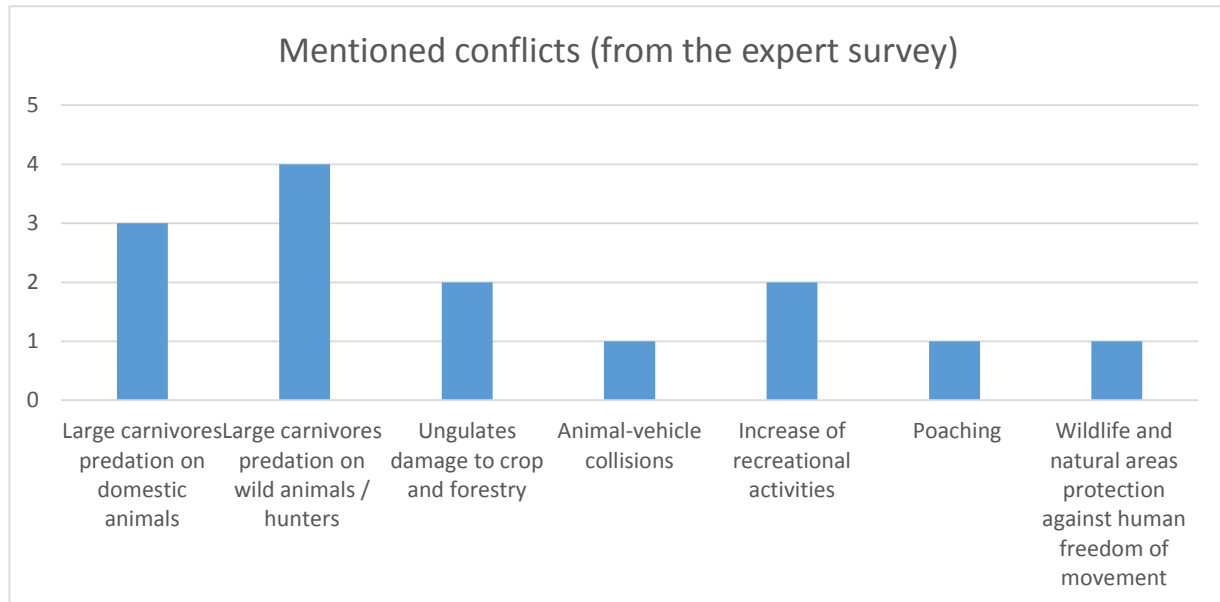


Figure 14 - Proposed conflicts in the Kalkalpen Project Working Region

### Involved stakeholders and workshop approach

Different public authority representatives, several administration representatives in charge of nature protection, and a representative of the hunters' community were present at the workshop. The representatives of the ownerships' associations and tourism representatives were missing. This has impeded the discussion to turn also on the touristic promotion of the region through the valorisation of large carnivores.

Due to the low number of participants (Table 4), a focus group was held with the objective to confront the different expectations and opinions on protected species management.

Table 4: Participants to the Kalkalpen Workshop

Andrea Omizzolo (EURAC)	Filippo Favilli (EURAC)
Prune Claire Giatti (EURAC)	Franz Zehetner (Bezirkshauptmannschaft Kirchdorf)
Bernhard Schön (Naturschutzabteilung)	Christian Fuxjäger (Nationalpark Kalkalpen)
Klemens Blaimauer (Land OÖ, Abteilung Land- und Forstwirtschaft)	Herbert Sieghartsleitner (Bezirksjägermeister, Landesjägermeister-Stv)
Thomas Nestler (Bezirkshauptmannschaft Steyr-Land)	Othmar Coser (Landeskriminalamt - Umweltkriminalität)
Christoph Nitsch (Nationalpark Kalkalpen)	Sara Vezaro (EURAC + Villaggio degli orsi)

## Report of the meeting

During the workshop, stakeholders were invited to give their general ideas and suggestions about the management of problematic species.

### Management principles

If finding a compromise on how to deal with the lynx seems complicated and premature, there is a common agreement that a structured management plan is needed. On one hand, scenarios' possibilities have to be considered in advance for the purpose of predictability and action awareness. For that purpose, conducting surveys would be necessary, in order to collect data on the species' ethology and on the general knowledge of this species by the large public and stakeholders. Clearly established management plans could also come along with an enhanced control and higher criminal punishment measures, which, according to the criminal expert present, could participate in preventing environmental crime.

On the other hand, there is also a will of flexibility in the management plan, mostly when it regards the removal of problematic individuals. Participants indeed insisted on the fact that no strict rule could be simply enforced, and that the acceptance of this kind of issue comes with compromises and ways to exit the general application of rules. In that way, the National Park position itself has the opportunity to develop an integrative and holistic concept of management that would be permanently adjusted according to the upcoming needs.

### Social actions on the issue

All seemed to agree however on the fact that education and awareness campaign at the local and sectoral level is needed in order to preserve wildlife. Media and newspapers are a serious shaping opinion force. On the proposition to view human-wildlife conflict as an opportunity for local development, stakeholders tried to imagine in what sense the presence of the lynx could be used to change the perception that the population has of hunters.

## Conclusions and next steps

Issues in management partly rest on the objectives of such a management: *Do we want to protect the animals against the human or the other way around?*

The matrix (fig. 15) showed that:

- a) Stakeholders show a positive attitude towards a potential coexistence between human activities and wildlife - taking the commitment of enhancing local cooperation for a shared management.
- b) The participants were skeptical to the fact that this workshop provided a way to better understand the different issues. The topic has been already greatly discussed, thus other ways of confrontation have to be found.
- c) Stakeholders believe in the opportunity given by the transnational cooperation in managing large carnivores.



- d) All stakeholders but one replied that nothing new was added to their knowledge in order to have a better comprehension of the problem and new ideas to face them.

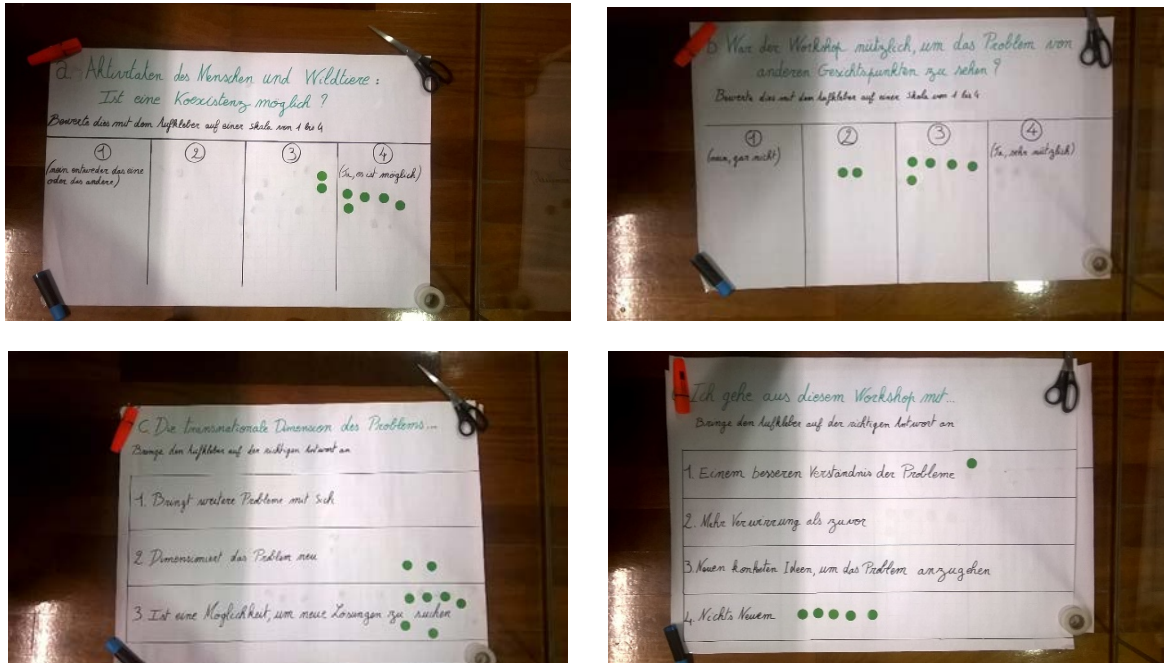


Figure 15 -Answers to the matrix of questions (in order question a,b,c,d, see general introduction)

## Main findings in Kalkalpen

- Stakeholders generally agreed on the fact that human welfare should come first and that large carnivore's management should fit human needs before considering biodiversity.
- Stakeholders' mutual perceptions seem to be a major problem in the management of the conflict.
- The utility of the park is regularly questioned. The latter undergo a certain lack of recognition, namely for managing the lynx issue, as some would rather see in such an organisation a simple intermediate between the public and nature.
- Hunters represent a significant community, facing also a suspected illegitimacy in environmental issue.
- Participants insisted on the necessity to consider everyone's opinions and fear, without prejudice of the category to which they belong.
- Other groups of stakeholders could take part in the debate and maybe enable to broaden the issue's perspectives and solutions (e.g. representatives of the ownerships' association, the tourism representatives, alpine association, NGOs, forest owners (who are farmers at the same time)).

### 3.5 Espace Mont Blanc - Road infrastructures and Ecological Connectivity

*Enhancing local and transnational cooperation to overcome grey barriers and implement ecological connectivity*

Date: 14.11.2017

Location: Sallanches (FR)

#### Summary of the workshop

In the Espace Mont Blanc and buffer areas, one of the main human-nature issues regards the interaction between road infrastructures and wildlife movements. The workshop was organized with the aim to share the knowledge and name the issues on the topic, between environmental and road management stakeholders since this phenomenon interests many people every day driving to Switzerland to work. There are no activities on the ground for the prevention and mitigation of the car accidents phenomenon. These prevention systems could even bring new job opportunities for the area. The thematic is completely new for Asters and they wish to develop the collaboration on this topic in the next years. The greatest interest in doing the workshop on this topic is related to the beginning of a new working group. Local stakeholders are already working on the topic on their own and for their specific needs, but currently, there are no strategies and agreed vision. The mitigation of wildlife-car accidents is one of the main topics for this Project Working Region.

#### INTRO

The Pilot working region "Espace Mont Blanc" (fig. 16) surrounds the area where the Italian, Swiss and French borders meet. This transnational alpine zone is a place of attraction, which participates in intensifying human settlement and traffic, resulting in an accelerated urbanisation. Simultaneously, the populations of ungulates are increasing and the combination of these two factors multiplies contacts between wildlife and human activities, leading to co-disturbance.

#### Proposed conflict issues

On the request "could you give few examples of conflicts regarding connectivity in your area", participants mentioned the importance of urbanization, which is a cause of Human-wildlife interactions more than a conflict itself. It may indeed generate different types of human-wildlife conflicts, such as AVC, a topic that was particularly intense and interesting to investigate according to our partner (Fig. 17).

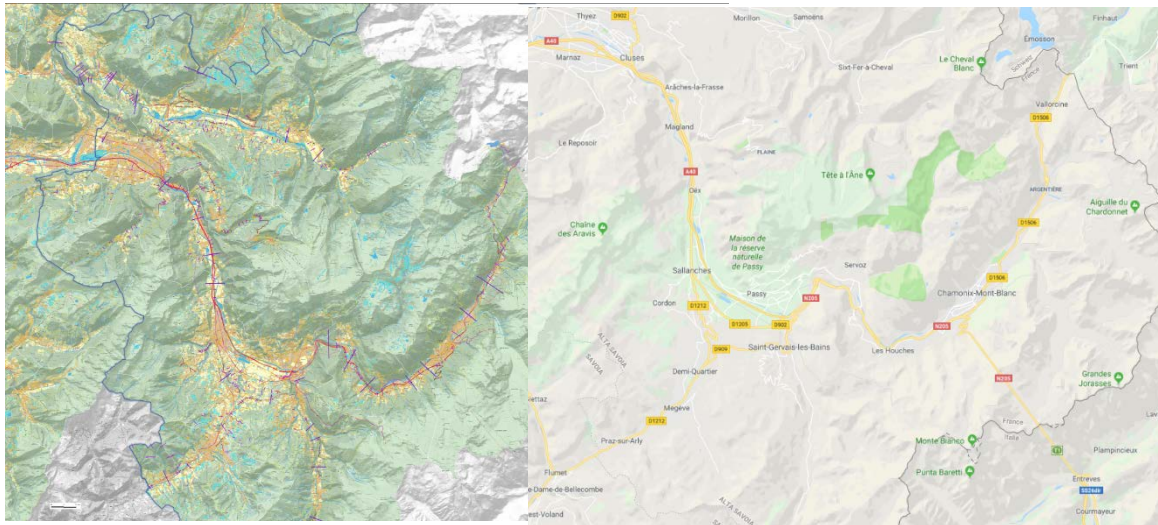


Figure 106 – Area of the Espace Mont Blanc (right), road infrastructures and ecological connectivity (left)

### Espace Mont Blanc issue in WP5

Our intervention focused on the French part of this area. The conflict selected together with the partners regarded the animal-vehicle collisions (AVC) and the road infrastructures as an impediment to ecological connectivity. This issue is significant in the territory. Public and private road services, environmental services and wildlife management organisations have already been working on mitigation techniques for several years. The first motivation for administrations is their accountability for roads and highways safety. Throughout the years however, the objectives have evolved toward the need of biodiversity conservation and the protection of some prominent ecological corridors.

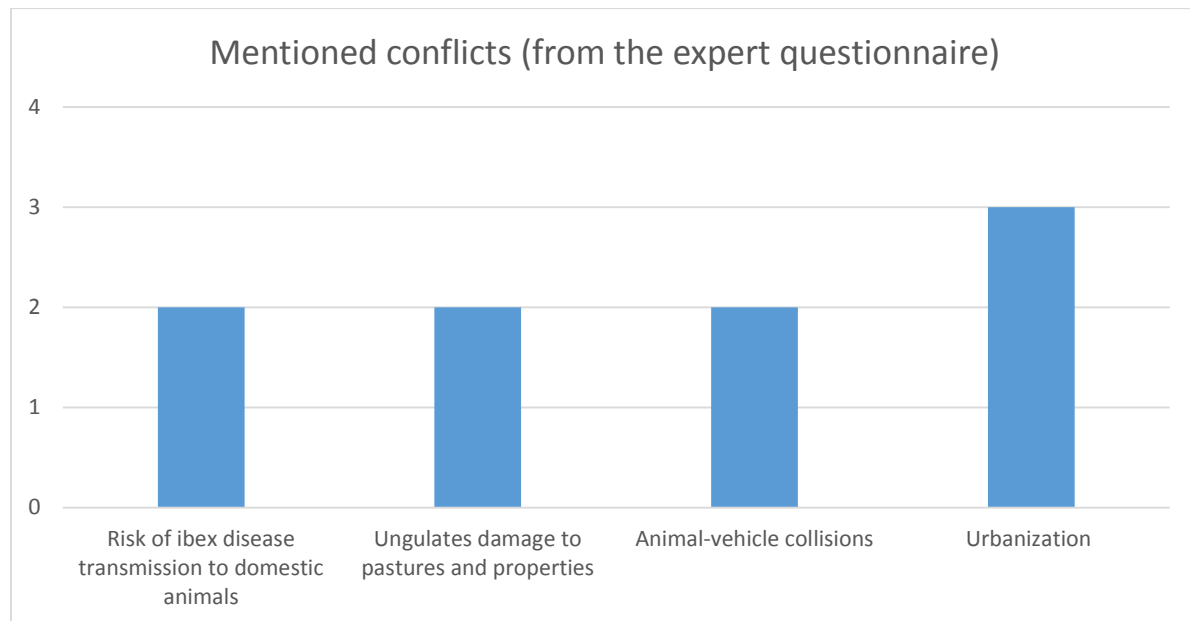


Figure 17 - Proposed conflicts in the Espace Mont Blanc Project Working Region

Animal-vehicle collision conflict mitigation encounters many obstacles through its implementation. Road infrastructure development and construction are very high-cost measures and usually not a priority when considered from an environmental point of view. As a result, road infrastructures and ecological connectivity is simply a secondary issue.

In Haute-Savoie, in addition of having already developed and experimented strategies to manage animal-vehicle collision, the stakeholders have been recently involved in developing what should soon become new forms of collaborations to manage the AVC conflict. All of them were present as representatives of administrations or involved in land management. Therefore, the workshop has been conducted in a context where the present stakeholders had a consequent level of awareness, knowledge and overview about the issue. It was indeed an exchange among experts. For this reason, our objective was not so much to initiate a discussion and to establish a clear definition of the conflict components. It was rather to consider those of the latter that would create resistance in the conflict management and to identify further issues occurring when the participative conflict management process has already been engaged. We will here present the challenged and agreed directions of work at stake according to several prominent managers concerning this topic.

### Involved stakeholders and workshop approach

Most of the participants were representatives of administrations that are respectively responsible for road infrastructures (Table 5). Present were the environment and road services of the department, two communities of municipalities, a representative of the Mont Blanc Autoroutes and Tunnel, the local federation of hunters and the Conservatoire of natural spaces of Haute-Savoie (Asters). The participation process on this topic is merely beginning, under the coordination of Asters. Some of the stakeholders, for example the local hunter federation and the Haute-Savoie department already cooperate on mitigation strategies that they co-managed. Their action has been quite successful in decreasing the number of accidents, but experience in common projects also reveals the difficulty in achieving optimal coordination.

Due to the low number of participants, a focus group was held with the objective to confront the different expectations and opinions on protected species management.

Table 5: Participants to the Espace Mont Blanc workshop

Andrea Omizzolo (EURAC)	Filippo Favilli (EURAC)
Prune Claire Giatti (EURAC)	Philippe Arpin (FDC 74)
Mégane Germain (FDC 74)	Julie Raffin (FDC 74)
Aline Breton (ASTERS-CEN74)	Marion Guitteny (ASTERS-CEN74)
Delphine Plusquellec (CD74)	Béatrice Fel (CD74)
Julie Chaboud (CCVCMB (Vallée de Chamonix Mt-Blanc)	Sara Vezzaro (EURAC + Villaggio degli orsi)
Aline Pissard-Maillet (CCPMB (Pays du Mont Blanc)	

## Report of the meeting

The participants started to update on the importance of the animal vehicle collisions topic in their territory. They were asked to indicate in what sense their organisation was affected by the phenomenon and what mitigation measures they had respectively implemented.

Most of the administrations and road managers priority and responsibility is road safety for users, which can be threatened by the crossing of large animals. The hunters' federation has a responsibility in term of wildlife management, mostly ungulates and cares about a uniform spatial repartition of the species. As a results, most of the measures that have been implemented so far concern large mammals. And Asters has a responsibility in fauna, flora and natural areas conservation, and in fact in EC.

Measures already implemented regard data collection in order to determine hotspots, awareness and mitigation techniques:

- Since 2016, the hunters' federation has developed the application for smartphone "VIGIFAUNE" operating at the regional level, in order that witnesses of accident with animals could report the location of the collision and the species involved.
- Road sign inviting drivers to slow down are the main "awareness" measure so far implemented. Road services assume that the number of signs should be limited since if they become too numerous, there is a risk that users do not pay attention anymore. The efficiency of this measure remains very difficult to evaluate.
- In the areas that have demonstrated to be at high risk of collision, the federation of hunters, together with the department administration have installed reflectors. The result was a significant decrease of collisions, even if the efficiency is largely correlated to the landscape features. In term of management, reflectors also require a lot of attention and maintenance. Participants have pointed out that the quality of human relationships in a common project was an important part for the efficiency of the action.
- Participants agreed that fencing measures are not sufficient (but actually, fences border only motorways)
- In the future (but not in the Mont-Blanc pilot working region), one overpass is about to be built up by the ATMB, and a system of infrared detection will be tested on a hot spot for three years.

## Conclusions and next steps

Due to the scarce representation of stakeholders, the discussion probably lacked a diversity of backgrounds and points of view. Despite their great knowledge and overview of the situation, the outputs represent exclusively ideas shared by road management and wildlife experts. This kind of meeting seems to set up common guidelines among different stakeholders having a relatively similar interest. However, it is hard to perceive the direction of the potential future actions since many key stakeholders were missing. The discussion should be enlarged to other categories of stakeholders as road users representatives, landowners, politicians, environmental organisations, police force in order to bring out potential issues related to conflicts of interests. In the next month, several focused meetings will be organized for local circumscriptions, under the coordination of the *Conservatoire d'Espace Naturel Haute-Savoie*



(Asters). The objective is to discuss more accurately the issue and the measures that should be taken within a specific area. On that occasion, the discussion will be widely opened to various stakeholders with the main aim to collect information that could enable a prioritisation of the different action zones, with the support of GIS.

The matrix (Fig. 18) showed that:

- Stakeholders show a positive attitude towards a potential coexistence between human activities and wildlife.
- The participants were skeptical on the fact that this workshop provided a way to better understand the different issues. This topic needs other ways of confrontation, perhaps more locally based.
- Stakeholders believe in the opportunity given by the transnational cooperation in managing this issue.
- All stakeholders replied that they have a better comprehension of the problem and new ideas to face them.

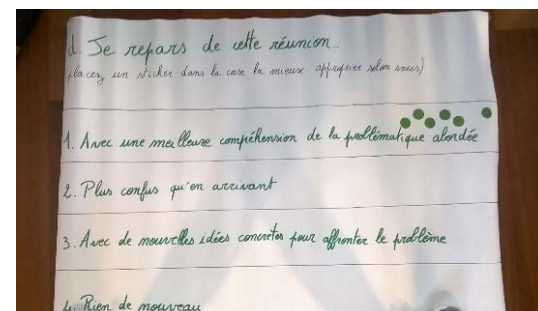
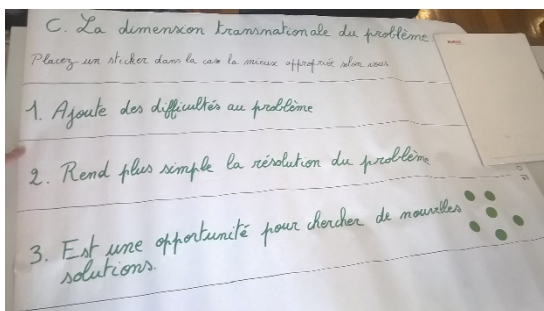
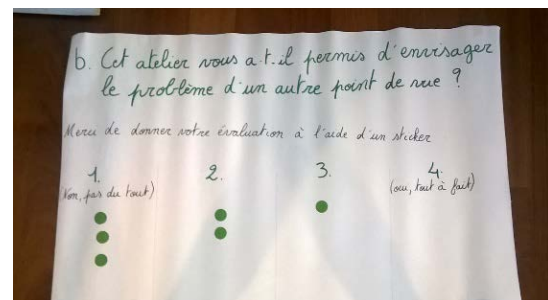
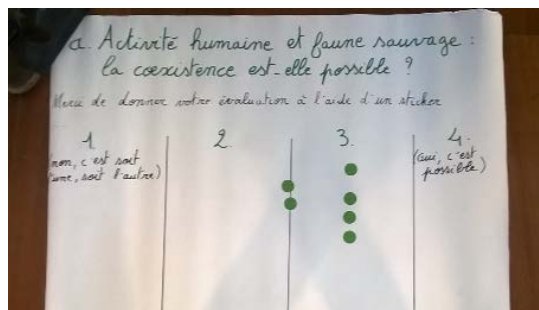


Figure 18 – Answers to the matrix of questions (in order question a,b,c,d, see general introduction)

## Main findings in Espace Mont Blanc

- Some hotspots could not be equipped because of land pressure or for technical reasons.
- Road infrastructures costs are extremely high and AVC mitigation actions do not always have the support of local politics, which would priorities projects of a higher interest for the regional development (e.g. UNESCO application) or in term of healthcare.
- Different levels of administrations also have competence on the topic of roads, which makes the realization of concrete actions challenging because of bureaucracy.
- In addition, the local population is increasing, which means that urbanization will keep on extending, as well as car traffic and human pressure on wild areas. On the other hand, this means that there is a growing need for road infrastructures to be adapted to the presence of wildlife.
- Different needs were identified to overcome the AVC problem in a more efficient way. First, there is a need to involve policy makers to have a concrete support and a consideration inside planning documents, without which it is harder to conduct efficient actions.
- There is a need to improve mitigation measures and to select the best area where to install them, which can be fulfilled by developing the knowledge on wildlife presence and actual movement and the knowledge of the quality of the whole corridor (urbanism and other infrastructures taking in consideration).
- The stakeholders agreed that more data and a sharing of data among them would be needed. The will of developing a common platform to enter and share animal-vehicle collisions data was expressed, as well as the extension to the large public of the "VIGIFAUNE" application, which is currently being used mostly by hunters.
- Then, there is a need to raise awareness among the large public, which would also require a cooperation between the different organisations, because each of them can reach a specific targeted group of population.
- Finally, all of the stakeholders agreed that the transnational dimension of the issue was an opportunity to look for new solutions. They showed an interest in investigating the management of AVC in other areas in order to exchange and improve their action.
- We noticed that in many propositions to overcome the conflict or to improve the efficiency of existing measures, the importance of the collaborative aspect was coming out.

## 4 Discussion / Conclusion

### General aspects

There is no doubt that each human-nature interaction has different ways of perception. Emotional aspects are very important to motivate people to actively join a participatory process able to find specific solutions to equally specific problems. The experience has shown there is no balance between people living and working close to a conflict situation and people just “informed” about a conflict situation occurring in their living place. People get more interested when the safety of their work is in danger and when the place where they live become a “less friendly one”. To encourage and facilitate greater engagement with local stakeholder, an “informative and compliant” approach endorsed by Eurac has proved to be very useful.

Communication has proved to be a very important tool to spread correct information and make people aware of possible conflicts/interactions happening around them and especially to give people instruments to prevent or mitigate similar events. However, communication seems to be often lacking and inadequate among people asked to face arguments discussed during the workshops. We noted a certain arbitrariness in this lack of interaction. Sometimes people just prefer protecting their positions without taking note of changes happening in the context where they live.

We also noted a certain frustration in here about the timetable to get some concrete solutions and about the effectiveness of the framework decision process within these participatory workshops. There is the need to provide a strong continuity to local and our activities. Cooperation and dialogue among different perspectives could help involved stakeholder to recognize the nature of the issue and overcome the problems that stand in the way of agreed common solutions. We must “get inside the skin” of people living these specific interactions, to deeply understand the problem. We need to strike a balance between those who have different views on a specific problem, aware that reality lies somewhere in the middle.

The experience with students is the main process we activated so far. We have shown how crucial it is to ensure sound and effective cooperation with young generation, first of all to inform them about new human-nature possible interactions and also for letting them know about the importance of their opinion. We have high expectations of questionnaire’s results and we believe it is extremely important to give effect to all data we collected.

### Did we achieve our goals? What is missing?

The goal of deliverable 2 of the Work Package 5 has been achieved.

The aim of this report is to elaborate an overview of the current and most urgent human-nature conflicts in PRs. The description of the analyzed conflicts and of the human dimension can provide a great opportunity to intervene in a certain situation - being aware of the effects each conflict has on each stakeholder category and on the large public.

The involvement of local stakeholders, when the aim is to collect all the different voices in an open dialogue for mutual understanding and cooperation, provides much more information than the interviews with “key” players. An open participative process is fundamental to understand also the relationships among the different stakeholders, how each of them see the others and how they relate with the administrations and with the natural environment.

For this reason, we adopted a multifaceted approach, either to select the conflict to be discussed, and also to get the information from the different actors.

The conflict selection process has been done first with an investigative survey for local stakeholders, then with an internal confrontation with the ALPBIONET2030 partners, based on their experience. The subsequent meetings in PWR and the interviews to selected stakeholders wanted to check the knowledge and the awareness of “key” people about the wildlife presence in their area, the degree of connectivity and the severity of ongoing conflicts between stakeholders. Our aim was to analyze different engagement approaches, according to the topic and to the number and typology of stakeholder occurred. The topic of the conflict was actually not the main reason of our presence in PWR; our aim was more related to the kind of approach used to involve stakeholders and to discover or test potential new ways of engaging stakeholders in the framework of ecological connectivity implementation.

### Semi-structured survey for local experts

The initial semi-structured survey for stakeholders allowed us to identify potential correlations between attitudes and profession, category, location, and other social criteria. The experts were asked to give few examples of conflicts arising in their area. They responded to this open question by mentioning very diverse situations, ranging from very specific HNC to general causes of tensions in the area with no particular specific conflict identified. For each PWR we have used these data to determine what the most sensitive conflicts could be. Together with the local partners, we determined which specific issue was the most interesting to be discussed during the site visits, according to their appropriate knowledge about conflict management in the place. Nevertheless, the most frequently mentioned conflicts in the survey were not always the ones we discussed during the site visits. The reason was an adjustment to the current local situation management and to the stakeholders that are already involved for the topic through other projects. In some cases, the issue was, in the present time, too sensitive for allowing an enlarged participatory involvement.

### Workshops in PWR

Workshops in PWR were conducted using different approaches to engage local stakeholders with the aim of giving local stakeholders the opportunity to express themselves freely and in their mother language. This awareness came from the previous project *greenalps*, where we have seen the difficulties of many stakeholders to express their thoughts in English, leading, in several times, to an uncomplete sharing of ideas and propositions. Language barriers are among the most difficult to overcome, especially in an area where four languages with several local dialects exists and where transnational cooperation is essential for the sake of the alpine territory.

During the organization of the workshops, we asked our partners what has been done in their PWR about the selected conflict and whether the local stakeholders have been already involved in some conflict resolution activities. We did not want to choose the engaging way in the first meeting, since we believed that local partners had a better knowledge of their stakeholders and knew the best way to engage them on the selected topic.

Workshops were conducted in the local language, in order to give the local stakeholders the freedom of expressing themselves freely without limitations given by the usage of another language. Therefore, we acted more as observers of the process and less as moderators.

In some cases (Berchtesgaden, Mont Blanc, Kalkalpen), the participation was not that high and some important stakeholders were missing. This was due to the fact that the selected conflict topic has been already discussed in the past, with just few positive results. Stakeholders have been involved in so many projects, sometimes with few (or none) implementations afterwards and they may have lost the will to contribute to these kind of projects (see also the GreenAlps project).

In the other PWRs (Prealpi Giulie/Triglav and Hohetauern/South Tyrol) the participation has been high, with representatives from the local governments and all the key stakeholders.

## Interviews

Stakeholder interviews (e.g. with local policy makers, hunters, farmers, wildlife and protected area managers) during the site visits have helped to understand the economic impacts of human-nature conflicts and to improve the current conflict resolution process.

Interviewed stakeholders described the current relationship between human activities and wildlife presence and the actions done to find a continuous compromise between the different actors and interests. Stakeholders stressed the fact that not all of nature should be accessible to human activities and that the education is fundamental in order to enhance the awareness of people on what humans can do or not, either in a positive and negative sense.

Large carnivores are a big issue, not only because of predation on livestock, but also for the side effects that it creates, mainly the psychological fear of facing such an issue every day.

Main problems, they say, are not with wildlife, but with people. The return of large carnivores is a factor of change, and sometimes people do not want to change their habits and accept the new reality. Many of the stakeholders face this issue as a challenge and a way to renovate the relationship between humans and the mountain environment.

Stakeholders, especially Protected Areas' managers, described the current conflicts in their area and how they are faced, locally and in a transnational way.

Economic operators, like livestock breeders and shepherds, described their work as very important for the society and for the relationship between humans and nature and humans-humans. They also claim that the current degree of conflict with large carnivores is due to the dishabituation to the coexistence that has created a hostile environment (natural and social) for these animals.

Interviewed people have appreciated the workshops approach, as a way to know the different perceptions and needs of the other stakeholders and to reach an agreement that could satisfy all of them.

Several stakeholders underlined the need to valorize the relationship between different generations, with the "old ones" that could teach to the "young ones" and being by them influenced on the new opportunities and innovation potentials.

Forest guards also stressed the need for education instead of prohibition, especially related to the potential negative effect of mountain sport activities on wildlife presence and distribution.



## Matrix results

The use of the Matrix provided an additional source of information for our aims.

The Matrix of questions showed us that many people are somehow afraid of exposing their own actual thoughts during a meeting, but they do it when they know they can reply anonymously. In Berchtesgaden, the workshop, although with just few people, was rather useful to get another point of view on the issue. Only one person ended the meeting with more confusion than clarity. This could be because it was the first time that the conflict topic was discussed in an enlarged environment.

In Hohe Tauern, the participants kept themselves skeptical about the possibility to cohabit with wildlife. The discussed topic is brand new and scientific studies on the potential impact of paragliding on wildlife are still scarce. Nevertheless, a majority of participants said the meeting has enabled them to gain a better and broader understanding of the issue, and on the need to face it in a transnational environment in order to bring new opportunities of understanding and development. The respectful confrontation and the dialogue for mutual understanding provided new concrete ideas to overcome the problem. Accordingly, the opinion poll showed that at the end of the meeting stakeholders had been able to view the issue that they are facing from another point of view.

In Prealpi/Triglav, the majority of participants replied to have a better comprehension of the problem and new ideas to face them. Stakeholders (farmers, shepherds and hunters) show a positive attitude towards a potential coexistence between human activities and wildlife - taking the commitment of changing some of their habits. Also in this PWR, most of the participants believed that this kind of workshop provides a way to better understand the different issues, opening minds to different points of view.

In Kalkalpen and in Mont Blanc it was not the same.

The discussed topics have been already faced in other ways, but for the moment, no clear agreements have been found.

In both areas, the participants were skeptical to the fact that this workshop provided a way to better understand the different issues. Other ways of confrontation have to be found. An open confrontation in a form of a focus group added nothing new to their knowledge in order to have a better comprehension of the problem and new ideas to face them.

The use of the Matrix may prove that many people are not used to discuss and share their interests and points of view with other stakeholder groups. In many cases, we may assist to a strong defense of a particular category's interest, regardless of the others'. This may help the understanding that, still, economic categories in mountain areas are not communicating, as they should to face new issues.

As in some areas we have detected the will to be resilient changing traditional habits and investigating the potentials of the occurring changes (i.e., wolf presence, climate change, new technologies etc), in others we have assisted to a strong resistance to that.

## Conclusion of the site visits

The site visits and the workshops have provided the opportunity to discuss the most urgent human-nature conflicts with the most important of involved stakeholders. In the framework of ecological connectivity, the conflict resolution approach is fundamental to know that to achieve

connectivity we first have to eliminate the barriers existing between people and promote their mutual understanding and collaboration.

That is not always easy and straightforward. Each stakeholder category has different interests on the territory and they relate differently with the other categories. Conflicts often manifest in “expressed disagreements among people who see incompatible goals and potential interference in achieving these goals” (Peterson et al., 2013).

We have not noticed hard disagreements during our workshops, but more the difficulties of walking in someone else’s shoes. In the course of the meetings, participating stakeholders appeared glad to be involved and to cooperate with us, letting us know their own thoughts about.

Analyzed conflicts are related to each PWR and its stakeholders. In the framework of ecological connectivity, all these conflicts have an influence on the state of connections between the identified SACAs. Therefore, the local stakeholders’ awareness and will to cooperate locally and in a transnational environment is fundamental.

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