



WORK PACKAGE 5 - Deliverable D.T5.4.1

“Human-Nature Interactions and Conflict Management in Mountain Environment” *Conflict resolution in Mountain Areas Workshop Proceedings*

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Contents

INTRODUCTION	3
Why a workshop on human-wildlife interactions?	3
GENERAL SCHEDULE.....	5
DETAILED PROGRAMME.....	6
KEYNOTE SPEAKERS	9
PARALLEL SESSIONS	13
PLENARY OPERATIVE SESSION	21
ORGANISING COMMITTEE	24
KEYNOTE SPEECHES.....	25
Ketil Skogen	25
Luca Rotelli.....	26
Clara Grilo	26
Francine Madden	27
PARALLEL SESSIONS – GENERAL OVERVIEW	28
Predation	28
Sport Activities.....	28
Animal Vehicle Collision (AVC).....	28
Stakeholder Engagement.....	29
PICTURES	30
Conclusions.....	33

INTRODUCTION

Why a workshop on human-wildlife interactions?

Humans and wildlife can interact in many ways, although some of these interactions often end up in conflicts. After two years of activities of the ALPBIONET2030 project, this Workshop wanted to be the opportunity to share and discuss the project's findings in the Work Package 5 "*Mediation in Human-Nature Conflicts*" with renewed international and Alpine experts and researchers.

Three main points describe the approach we followed for outlining the structure of the workshop and to get some concrete sense out of the scientific research behind our choices.

1. A key feature of many human-wildlife interactions is that they can affect multiple stakeholders whose respective priorities, needs and perspectives are often in contrast.
2. Human-wildlife conflicts can be approached in many ways through participatory processes. These kind of approaches that can be developed in different ways according to the topic, the locality and the kind of affected stakeholders, provide to be useful when describing and addressing complex problems like those labeled as "human-wildlife conflicts".
3. Last but not least, we believed that the voice of real experts as researchers, policymakers and wildlife managers could help the research work about understanding the quality and nature of local attitudes and perceptions to these kind of interactions.

The selected thematic sessions reflected the main themes arisen during several meetings in all the Project Working Areas of ALPBIONET2030 during the previous two years of project's activities. We are aware it's difficult to be exhaustive on deeply investigate all the topics we collected at meetings with several stakeholders, but we are equally persuaded the choice we made well reflect the Alpine area current scenario.



Figure 1 Dr Favilli officially opens the workshop

Human-wildlife conflict is widely recognized as a growing concern to many wildlife species. A big question we are facing now is: what we are looking into, is a conflict between people and wildlife or more specifically *a conflict between people about wildlife*¹? There is growing recognition that interdisciplinary approaches that account for both ecological and social processes are necessary to

¹ Madden, F. "*Creating Coexistence between human and Wildlife*", Human dimension of wildlife, pp. 247-257, 2004.

successfully address human-wildlife interactions². What we outlined with the event is the importance to implement scientific approaches that integrate social and ecological knowledge to establish effective and sustained conservation solutions.

More than 100 people took part in both workshop days. The number and the provenience of the participants reflect the great diversity of interested actors coming from all the Alpine countries, from other EU countries and from USA, and the magnitude of the proposed thematic around the World.

Human relationships with wildlife are shaped by a wide range of social and psychological considerations, including diverse cultural and emotional experiences, economics, governance, and stakeholder engagement³. Studies in the human-wildlife conflict literature draw on many different disciplines: anthropology, biology (including animal behavior, conservation biology, ecology, genetics, wildlife ecology, and zoology), economics, environmental studies, geography, history, natural resource management, political science, and psychology. Further work on the role of evolution in understanding human and wildlife behavior in the context of human-wildlife conflict could help to inform both human and wildlife responses to conflict. The workshop organized by Eurac should be understood as the attempt to inform about this topic, and when is possible to educate, as many people as possible.

² Stacy A. et al. "A conceptual model for the integration of social and ecological information to understand human-wildlife interactions", *Biological Conservation*, pp. 80-87, 2018.

³ Philip J. N., "Human-Wildlife Conflict and Coexistence", *Annu. Rev. Environ. Resour.*, 41:143–71, 2016.

GENERAL SCHEDULE

DAY 1 - Monday, Nov. 26	TIME SLOT		DAY 2 - Tuesday, Nov. 27
	08:30	08:45	INTRODUCTION TO THE 2nd DAY
	8:45	09:00	INTRODUCTION TO THE LIFE PROGRAMME AND ITS FUNDING POSSIBILITIES
	09:00	10:30	PARALLEL SESSIONS PREDATION / SPORT ACTIVITIES
	10:30	11:00	COFFEE BREAK + POSTER SESSION
	11:00	12:30	PARALLEL SESSIONS ANIMAL-VEHICLE COLLISION / STAKEHOLDER ENGAGEMENT
WELCOME AND REGISTRATION	12:30	13:30	LUNCH BREAK + POSTER SESSION
	13:30	13:45	PLENARY SESSION (OPEN SPACE) ISSUES AND OPPORTUNITIES FOR ENHANCING HUMAN – NATURE INTERACTIONS AND CONFLICT MANAGEMENT IN MOUNTAIN ENVIRONMENT
	13:45	14:00	PARALLEL OPEN SESSIONS (OPEN SPACE)
	14:00	14:30	
OPENING OF THE WORKSHOP	14:30	15:00	PARALLEL OPEN SESSIONS (OPEN SPACE)
KEY NOTE 1 - PREDATION	15:00	15:30	
KEY NOTE 2 - SPORT ACTIVITIES	15:30	16:00	
COFFEE BREAK + POSTER SESSION	16:00	16:30	
KEY NOTE 3 - ANIMAL-VEHICLE COLLISION	16:30	17:00	FINAL CONCLUSIONS
KEY NOTE 4 - STAKEHOLDER ENGAGEMENT	17:00	17:30	
QUESTIONS / ANSWERS	17:30	18:00	END OF THE WORKSHOP - APERITIF
SHORT FILM – THE WOLF	18:00	18:30	
FREE TIME	18.30	19.00	
WORKSHOP DINNER	20.00	23.00	



Figure 2 - The Welcome and Registration Desk

DETAILED PROGRAMME

DAY 1 - Monday, Nov. 26	
12:30	Registration
14:30	<p>OPENING</p> <p>Roland Psenner, President of Eurac Research Thomas Streifeneder, Head of the Institute for Regional Development, Eurac Research Guido Plassmann/Yann Kohler, ALPARC, Leader of ALPBIONET2030 Project</p>
14:45	<p>INTRODUCTION</p> <p>Filippo Favilli, Eurac Research</p>
15:00	<p>KEYNOTE SPEECHES 1-2</p> <p>PREDATION Unintended consequences in wolf management: How mitigation efforts may raise the level of conflict <i>Ketil Skogen, Ni.Na. Research Center Norway</i></p> <p>SPORT ACTIVITIES Wildlife and outdoor activities: we need to find the right balance <i>Luca Rotelli, Free Lance Biologist, IUCN Galliformes Specialist Group, Italy</i></p>
16:00	COFFEE BREAK
16:30	<p>KEYNOTE SPEECHES 3-4</p> <p>ANIMAL-VEHICLE COLLISION Animal-Vehicle Collisions: towards safe roads to reduce the human-wildlife conflict <i>Clara Grilo, CDV Research Centre on Transportation, Czech Republic</i></p> <p>STAKEHOLDER ENGAGEMENT The Center for Conservation Peacebuilding (CPeace): effective and sustainable stakeholder engagement <i>Francine Madden, Center for Peacebuilding and Conservation, USA</i></p>
17:30	<p>QUESTIONS & ANSWERS</p> <p>Filippo Favilli, Eurac Research</p>
18:00	<p>FILM: THE WOLF (20')</p> <p>In the Southern Alps, a wolf was authorized to be shot. Fabian accompanies his father Anton on the wolf hunt to improve their bad relationship. Anton however still mourns for his favorite deceased son Bernhard. In the end the hunt takes an unusual twist ... <i>Benjamin Thum (IT)</i></p>
20:00	<p>WORKSHOP DINNER</p> <p>Franziskanerstuben, Bolzano <i>Via dei Francescani, 7</i></p> <p><i>For pre-registered participants only Please check your registration to the dinner at the registration desk</i></p>

DAY 2 - Tuesday, Nov. 27

08:00 | Registration

08:30 | INTRODUCTION TO THE 2nd DAY

Conference Hall

Isidoro De Bortoli, Eurac Research

08:45 | INTRODUCTION TO THE LIFE PROGRAMME AND ITS FUNDING POSSIBILITIES

Conference Hall

Lucie Trokanova, NEEMO

09:00 | PARALLEL SESSIONS

PREDATION

Conference Hall

Chair: Filippo Favilli, Eurac Research, Italy

Potential benefits of brown bear eco-tourism in the South Eastern Alps

Clara Tattoni, University of Trento / ULPGC (IT)

Livestock protection: overview in 7 EU States

Max Rossberg, European Wilderness Society (A)

Knowledge and attitudes of the large public, local stakeholders and tourists in South Tyrol toward the return of the wolf

Stauder Julia, Eurac Research (IT)

Large carnivores in Central Alps: the conservation of brown bear and wolf should consider the improvement of the "social habitat"

Armanini Marco, Adamello Brenta Nature Park (IT)

SPORT ACTIVITIES

Seminar 123

Chair: Luca Rotelli, Free Lance Biologist, IUCN Galliformes Specialist Group (ITA)

Recreational activities and wildlife disturbance - Mountainbiking experiments with roe deer (Capreolus capreolus) in Switzerland

Martin Wyttenbach - University of Applied Sciences in Zurich (CH)

WeWild project: Alpine-wide cooperation and action for increased environmental awareness in nature sports

Dominik Cremer-Shulte – ALPARC (F)

Impact and sustainability of ski piste management on mountain grassland ecosystems in South Tyrol, Italy

Sara Casagrande Bacchiocchi – Free University of Bolzano / Bozen (IT)

"Freedom with Respect" – the awareness campaign for sustainable mountaineering in South Tyrol

Franziska Zemmer, Department of Nature and Environment, Alpenverein Südtirol (IT)

10:30 | COFFEE BREAK

Foyer

11:00 | PARALLEL SESSIONS

ANIMAL-VEHICLE COLLISION

Conference Hall

Chair: Annette Mertens, Agristudio Srl, Italy

Ungulates and road accidents: an analysis for the Province of Turin (Italy)

Eloisa Massobrio, University of Turin (IT)

Conservation science for the management of transportation systems mountain landscapes in western Canada

Anthony P. Clevenger, Western Transportation Institute, Montana State University (USA)

Animals and infrastructure: management in PWR Mont Blanc

Marion Guitteny, ASTERS (FR)

Seasonal movement corridors for brown bears in Croatia

Daniele De Angelis, University of Roma "Sapienza" (IT)

STAKEHOLDER ENGAGEMENT*Chair: Gerardo De Luzenberger, University of Trento, Italy**Seminar 123***A Park giving Voice - Listening, Sharing, Participating to Preserve***Stefano Santi, Ente parco naturale delle Prealpi Giulie (IT)***RESICETS: Environmental resilience of recreational activities in the Ossola Protected Areas through the European Charter for Sustainable Tourism***Piazza Daniele, Cipra Italia (IT)***"Like lambs in the midst of wolves..." Stakeholders' engagement in the LIFE WOLFALPS project***Carlo Maiolini, Muse (IT)***Landcare - cooperative stakeholder engagement and implementation of connectivity measures***Kaerlein Marie, Landcare Germany (DVL) (DE)*

12:30 | LUNCH BREAK

Foyer

13:30 | INTRODUCTION TO THE OPERATIVE SESSIONS

*Conference Hall***Federica Maino**, Eurac Research

13:45 | PLENARY SESSION (OPEN SPACE)

*Conference Hall***Issues and opportunities for enhancing human – nature interactions and conflict management in mountain environment**

OPERATIVE SESSION

Gerardo De Luzenberger, IAF – International Association of Facilitators CPF - Certified Professional Facilitator

17:00 | FINAL CONCLUSIONS

Conference Hall

Closing Workshop

Filippo Favilli, Eurac Research

17:30 | APERITIF

Foyer

*The Congress has been certified as "Green Event"
by the Autonomous Province of Bolzano/Bozen*



KEYNOTE SPEAKERS

Ketil Skogen

Norwegian Institute for Nature Research NINA

Ketil Skogen works as a Senior Researcher for the NINA Institute in Oslo. His research is focused on land use conflicts in a socio-economic and socio-cultural perspective, cultural change in rural areas, and local resource management. For almost two decades he is now studying the conflicts over wolves and wolf management in Norway, analysing the controversies primarily in the context of social and cultural changes in rural areas and considering the role of different stakeholder groups.

Unintended consequences in wolf management: How mitigation efforts may raise the level of conflict

Wolves cause strong conflicts in Norway, as in many other places. But compared to most European countries, rural districts enjoy a comparatively strong political position at the national level (even though rural areas experience decline in Norway as everywhere else). Together with the fact that Norway is not affected by the Habitats Directive, this has paved the way for a wolf management that is shaped by farming interests – even though livestock husbandry is not common in the areas where we currently have wolves. Like most conflicts over conservation, wolf conflicts appear to have a “material core” in the sense that interests tied to economic activities are pitted against conservation. This resembles issues that are regularly dealt with within established bureaucratic systems and fit well with the dominant political discourse. Consequently, mitigation efforts normally target such conflict issues (economic loss), which can be addressed by means of measures like economic compensation or incentives. Although most Norwegian wolves live in areas where there is little livestock, the conflicts are intense even without an economic impact. Traditionally oriented fractions of the rural working class, not farmers, emerge as a powerhouse of resistance against a growing wolf population. While wolves do pose problems for hunters and dog owners and cause some anxiety, the conflicts clearly driven by additional factors. These are rooted in other, more general, social tensions and processes of social change, e.g. the perception of power relations between urban and rural people and the economic decline and depopulation of rural areas. Mitigation efforts that primarily address economic loss will miss these other dimensions, particularly when the economic activity that receives compensation and incentives, and which defines core aspects of Norwegian wolf management, does not have a strong presence in the area. Importantly, some such efforts may lead to significant unintended consequences, in that they aggravate other conflict dimensions. Measures that are staple elements in mitigation do not only alienate people who are supportive of wolf protection (of which there are many, even in rural areas), they also anger traditionally oriented groups like rural hunters, who have received very limited attention. This leaves management agencies and policy makers almost without any allies on the ground and demonstrates how national political power structures can thwart knowledge-based mitigation efforts.



Luca Rotelli

Free Lance Biologist, IUCN Galliformes Specialist Group

Luca Rotelli holds a master degree in forestry and works as a free-lance biologist. For more than 20 years he has been conducting projects in different European countries focusing on the ecology and habitat requirements of different wildlife species. In his work he also investigates the impact of human activities like recreation, sport and tourism, on alpine wildlife and its ecosystem.

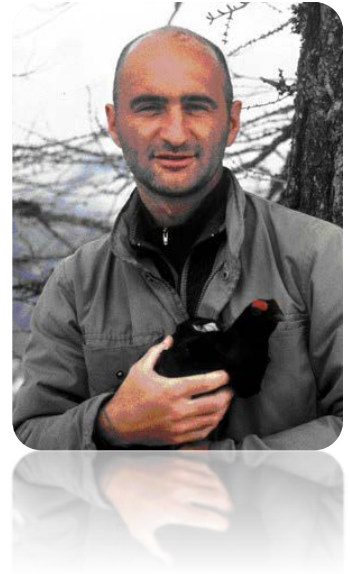
Wildlife and outdoor activities: we need to find the right balance

The Alps are the largest natural area in the world for tourist purposes and the second overall, behind the costs of the Mediterranean Sea. About 120 million tourists visit the alpine chain every year. This number is continuously increasing, as always more new outdoor activities that can take place just in mountain areas are spreading (ski mountaineering, snowshoeing, freeride, free-climbing, bouldering, ice-climbing, mountain-biking, hang-gliding, paragliding, rafting, canyoning, orienteering). The number of the practitioners of these activities has grown in an exponential way in the last thirty years. The wave of tourists that visits the Alps in every season, besides being the most important source of income for the people who live in this region, brings with it a couple of negative consequences on the environment. The wildlife not only loses part of its habitats because of the construction of human settlements, roads, skilifts, ski slopes and water basins for making artificial snow, but it has to avoid always more frequently the presence of people, who penetrate more deeply and more often in until now undisturbed areas.

The increasing consideration of the different groups of interest for the Alps determines that even the outdoor activities initially defined at low environmental impact, as ski mountaineering and snowshoeing, because of the always-higher number of practitioners, can have negative repercussions on the natural ecosystems, causing a heavy disturbance of the wildlife. In winter, alpine animals, like chamois, ibex, red deer, black grouse, capercaillie, rock ptarmigan and snow hare, because of the snow depth and of the cold, have to limit their energy expenditures to a minimum. Moreover, the food in winter is scarce and of low quality. If they are disturbed and forced to flee, then it is not easy to regain the energy invested in the flight. At the end, repeated disturbances can be a threat for the alpine wildlife, determining a reduction of its fitness with an increase of mortality and a decrease of breeding success.

The numerous winter outdoor activities, as they are carried out in the same habitats where the wildlife spends the winter, not only represent a direct threat for the fauna, but also can cause the fragmentation, degradation and loss of the best wintering areas.

Not only the winter outdoor activities can be critical for the wildlife, but also those carried out in other seasons, such as mountain-biking, orienteering, mushroom and berry gathering, as they interfere with other sensitive phases of the life cycle of the wildlife (mating, breeding and rearing of young). As the number of outdoor activities and their practitioners is steady increasing, if we want to preserve sensitive habitats in the Alps in the future, each human activity should be regulated in order to guarantee the wildlife undisturbed areas where to spend the most critical periods of their life cycle.



Clara Grilo

CDV Research Centre on Transportation; Czech Republic

Clara Grilo currently works as a Senior Researcher at the CDV Research Centre in Brno.

Much of her research is focused on the impact of anthropogenic changes to the landscape and effects on wildlife. Her ongoing study aims to identify spatial risk factors for ungulate-vehicle collisions in Europe and predicting accident risk. A second projects focuses on the impact of road-kill on wildlife in Europe.



Animal-vehicle collisions: towards safe roads to reduce the human-wildlife conflict

Roads and transportation networks can be a source of mortality due to animal-vehicle collisions (AVC). AVC can be a conservation issue due to additional mortality of wildlife populations. There are estimates that that billions of wildlife fatalities occurring each year around the world. Additional mortality can affect the dynamic of populations and increase the risk of local decline or extinction for several species, particularly for those that are already threatened. AVC can also be a major concern for road safety when large mammals are involved, with financial implications for public and private agencies worldwide. Collisions with large mammals in Europe can result annually in 30,000 personal injuries and 300 human fatalities in Europe with costs reaching up to €200 – 300M/year in Germany and France. Such issue has prompted research centres, universities, and environmental organizations to provide guidance for government road agencies to reduce road-kill rates. Here we will present 10 initiatives that are under way in several countries to better understand the mechanisms underlying road-kill likelihood and identify the best approaches to reduce the number of AVC: 1) Improve the quality of AVC datasets with training courses for Police and Road agencies on data collection; 2) Develop web-map applications to collect the road-kill data and statistical methods to identify AVC clusters; 3) Analyse which species life traits make them particularly vulnerable to traffic; 4) Assess the spatial and temporal patterns of AVC and identify the landscape- and road-related features that better explain the AVC incidence likelihood; 5) Evaluate the local risk of extinction of species under additional road mortality; 6) Test the effectiveness of several measures in areas with high incidence of AVC; 7) Analyse economic costs associated with AVC to identify where mitigation would produce cost-benefits over the long term; 8) Organize workshop for engineers from public and private road agencies to think about new ways to construct and design wildlife crossings. 9) Promote Public information and education to help drivers avoid an AVC by changing their behaviour; 10) Bring together road agencies, environmental organizations and researchers at national level to better understand the social, ecological and economic implications of AVC and approaches to minimize it. Recommendations will be made to overcome the lack of knowledge and to promote cooperation among the stakeholders in order to minimize this human-wildlife conflict.

Francine Madden

Executive Director, Centre for Conservation Peacebuilding

Francine Madden leads CPeace's Conservation Conflict Transformation (CCT) capacity building, conflict intervention, and strategic guidance work. She has led constructive change processes and counselled governments, communities and NGOs - from Bhutan to Botswana, from the Galapagos to the Republic of Georgia and from Uganda to the United States - in ways that result in positive change for people and wildlife. She has two masters' degrees from the School of Public and Environmental Affairs at Indiana University and is the author of numerous publications and presentations on various aspects of conflict in conservation, including human-wildlife conflict.



The Center for Conservation Peacebuilding (CPeace): effective and sustainable stakeholder engagement

The Centre for Conservation Peacebuilding (CPeace)—a non-profit peacebuilding organization working globally in the wildlife conservation sector—transforms deep-rooted social conflict to create lasting solutions for diverse people and wildlife. Deep-rooted social conflicts around wildlife often erode efforts to protect species and hinder shared wins between communities, conservationists, and governments. These identity-based conflicts must be sufficiently reconciled through strategic process and relationship changes or conservation wins will be temporary, at best.

To address these challenges and develop a better process for effective and sustainable stakeholder engagement, CPeace drew on numerous disciplines—including neurology, psychology, anthropology, behavioural economics, conflict transformation, peacebuilding, and systems practice—to develop Conservation Conflict Transformation (CCT). As the pioneer and global leader in CCT, CPeace has a proven track record in leading and empowering successful CCT-integration efforts in a variety of conflicts and at different scales. Serving as a Third Party Neutral, Francine Madden has engaged thousands of stakeholders, governments, and interest groups over the last 20+ years in social conflicts around wolves, bears, gorillas, tigers, elephants, prairie dogs, sharks, tortoises, parrots, and many other species.

Regardless of each case's unique qualities, the social conflicts underpinning conservation efforts typically involve perceptions of power imbalance or lack of control; threats to identity; insecurity; a lack of recognition; a history of unresolved conflict; and a fracturing of connectedness by one or all parties to the conflict. Typically, there are also structural or systemic conditions that 'lock' the conflict into seeming intractability.

Francine Madden will engage participants in the theoretical underpinnings of CCT, share key lessons from recent cases, and provide practical strategies and considerations for reconciling conflict, improving stakeholder engagement and shared decision-making, and positioning area leaders and institutions to serve as agents for constructive change.

PARALLEL SESSIONS

PREDATION

Chair: Filippo Favilli, Eurac Research, Italy

Tuesday / 09:00 – 10:30

Potential benefits of brown bear eco-tourism in the South Eastern Alps

Clara Tattoni, University of Trento / ULPGC (IT)

The conflicts between humans and bears are an issue for conservation projects, especially in highly anthropic landscapes such as those in Europe. A sustainable and long-term management of bear populations is possible only when both scientific and socio-economic evaluations are considered. Despite the occasional damages to the agriculture and farming, the bears can provide benefit for the tourism sector, attracting nature lovers and wildlife watchers. However, the effect of activities like bear-watching on local economies and on the acceptance of large carnivore is still poorly investigated and it is a recognized knowledge gap in the literature. This work focuses on estimating the potential increase in eco-tourism demand for visiting the area of Trento (South Eastern Alps, Italy) that hosts a population of about 60 reintroduced brown bears (*Ursus arctos* L.). As a first assessment we measured the monetary value of the bears' appearances in documentaries broadcast on Italian TV from 2011 to 2017. The marketing value of the bear image was on average 12.5 times the amount of money reimbursed for damages in the same period (range 2.6-34). The application of a more sophisticated econometric technique based on questionnaire is ongoing. The experimental design allows to estimate the so called "flag species" effect, i.e. the impact on the image of an iconic mammal such as the bear, on a tourism destination. We expect to estimate the willingness to pay by tourists under different management and bear population size scenarios. The first prototype of the questionnaire will be administered to about 100 potential domestic tourists through an on-line survey that will take place in June/July 2018. The conference will be an occasion to share the preliminary results and to improve the questionnaire structure to develop the final international survey.



Livestock protection: overview in 7 EU States

Max Rossberg, European Wilderness Society (A)

Conflict management in human-nature interactions is a key solution to move towards a sustainable and nature-friendly coexistence between people and nature. But what many people define as human-nature conflict, is actually human-human conflict. Politicians, farmers, hunters, NGOs and environmentalists engage in discussions on a daily basis, with different interests, yielding no substantial results to improve the current situation. The main challenge in mountainous environments is for people to accept presence of diverse wildlife, while keeping damages made by wildlife at a tolerable level. One of the most important contributions to solving the conflict situations in mountainous environments is the proper use of livestock protection measures. Just recently, the German province of Lower Saxony showed again that damage levels decreased when using proper protection measures, while numbers of wolves continue to grow. Nevertheless, many decision makers in alpine countries are rejecting for numerous reasons the solutions that will reduce the negative impact of Wildlife on Livestock. Traditional and modern techniques are available in Europe, as well as the know-how on effective implementation. Best practice examples from Austria, France, Germany, Italy, Lithuania, Slovenia, Switzerland show how these measures are effectively implemented across a variety of regions, from meadows to mountains. It is of crucial importance that European countries use these best practices and learn from each other, and do not have to reinvent the wheel each time. Livestock protection is most effective when combining shepherds, herd protection dogs, night enclosures mobile, and fixed electric fences. Efforts must be made to define a single common standard of effective livestock protection, using simple guidelines, while being affordable and practical to implement. Depending on local legislation and environment, a tailored set of measures can then be implemented to be most effective.

Knowledge and attitudes of the large public, local stakeholders and tourists in South Tyrol toward the return of the wolf

Julia Stauder, Eurac Research (IT)

Thanks to increased protection status and to the abandonment of mountainous territories, the European wolf population is recently recovering and recolonizing its former territories. Also in South Tyrol, an alpine province in the northeastern Italian Alps, the wolf is naturally returning. This has caused conflicts on different social and economic levels. Livestock losses due to predation and the raise of the ancestral fear towards wolves is causing emotional responses and strong discussions between interest groups on the need for management measures to protect economic activities and guarantee public safety. Up to this date, being a relatively new conflict thematic in this province, there are no scientific data available analysing these social aspects related to the presence of this predator in South Tyrol. Our study is the first attempt to give a comprehensive overview about the attitude of residents and tourists in this region towards wolves. Therefore, we ran a quantitative online-questionnaire for residents and tourists in South Tyrol, sampling 1818 responses from residents, and xx from tourists. In addition, we conducted 48 qualitative interviews with local stakeholder, including hunters, livestock farmers and person working in the tourism sector. Our results demonstrate differences in attitude and perceptions between target groups, also depending on factors like age classes, knowledge level, place of residence and others.

Filling this lack of information, gives the possibility to analyze concrete problems, trying to satisfy the management expectations, demonstrate the potentials for a positive coexistence and reply to the personal consternation of the economic operators and of the large public of South Tyrol.

Large carnivores in Central Alps: the conservation of brown bear and wolf should consider the improvement of the “social habitat”

Marco Armanini, Arianna Bonavida, Andrea Mustoni, Scientific Research and Environmental Education Group, Adamello Brenta Nature Park Italy; Roberta Chirichella, Marco Apollonio, Department of Veterinary Medicine, University of Sassari; Filippo Zibordi, Istituto Oikos Milano

Human acceptance of the presence of large carnivores is a crucial point for their conservation. Particularly serious plights concern species, such as brown bears (*Ursus arctos*) and wolf (*Canis lupus*), that after centuries of persecution and decline, have experienced recent recovery in Europe, increasing human-large carnivores conflicts. We designed this study to evaluate the outcome of human attitude towards large carnivores in Central Alps (province of Trento, Italy). In this study area live a reintroduced brown bear population consisting of 52-63 estimated individuals and 6 packs plus 1 pair of wolves deriving from a natural expansion process. Even if predator attacks on humans are rare (three cases of attack with physical contact are documented for the reintroduced bear population), they arouse a great media attention and can drive public perception accordingly. In such context a better understanding of bear's behavior in case of encounters and its driving causes could help to improve direct communication tools/subjects and reduce negative experiences. Thus, in two different historical moments, through the use of structured interviews, we collected data i) to evaluate the outcome of human-bear encounters (256 interviews in 2007/09 and 136 interviews in 2017/18) and ii) to highlight the human attitude towards bears (355 interviews in 2007/09 and 182 interviews in 2017/18) and wolf (182 interviews in 2017/18). Bears are mostly shy of humans, but in some rare occasions they can be harmful. We analyzed data about the reactions of the bears at different encounters distances with humans (n=392). The shyness of the bear for humans decreased according to i) the presence of cubs, especially during the post-hibernation period; ii) the presence of dogs; iii) in open areas; and vi) at close distances. Maintaining this shyness and avoid close confrontations between man and bear is a very important task, especially in growing bear population and in dense human areas where the possibility of encounters exists. Appropriate awareness campaign should promote appropriate human behaviors based on scientific information (local data) and this data collection could support regulations (e.g., dogs on a leash). This study revealed a changed attitude towards bear presence from the reintroduction project to nowadays. The questions added in the second phase of the study to assess the attitude towards wolf showed a strong awareness of the local presence (98%) but a low acceptance (more than 60% of interviewees was frightened by the possibility of sighting). According to our research, large carnivores' conservation needs the improvement of the “social habitat”.

SPORT ACTIVITIES

Chair: Luca Rotelli, Paneveggio Pale di S. Martino Regional Park, Italy
Tuesday / 09:00 – 10:30

Winter sports-wildlife conflict, freerider campaign, experimental evaluation

Marcel Hunziker, Swiss Federal Research Institute WSL (CH)

Outdoor recreation activities have increased all over the world. This development can lead to conflicts, with wildlife populations in mountains. Former campaigns reduced such conflicts by positively influencing the respective behavior of snow-sports people by information and sensitization. However, the so-called free riders could hardly be influenced by such campaigns. Thus, a specific free rider campaign including on-site measures and using the free riders' media and language was launched in Switzerland. Our study aimed at evaluating the effectiveness of this campaign. To reach this aim, free rider surveys in ski resorts were conducted. Thereby, an experimental design was applied, i.e., surveys were conducted in a treatment area where the campaign was active on site as well as in a control area where no on-site measures were taken. In addition, the surveys were conducted in four waves (with increasing treatment intensity in the treatment area) during the skiing seasons 2013/14 and 2015/16. The analysis of the survey results clearly showed that the respect-wildlife campaign positively influenced the (reported) wildlife-responsible behavior of the free riders as the treatment intensity (waves 1-4) and the location (treatment vs. control) turned out to be significant factors in ANOVA, and as the percentage of free riders who knew the campaign also differed significantly between these waves and locations. However, as the reported behavior and further factors also improved in the control area, other factors such as the diffusion of the campaign over time seem to have influenced it. The results support the value of specific target-group oriented on-site measures influencing the behavior within a short period of time. At the same time general measures such as campaigns in the inter-net etc. are more generally effective show rather long-term effects. It is therefore highly recommended to apply both types of persuasion techniques, of course always in a target-group oriented way.



Recreational activities and wildlife disturbance – Mountain biking experiments with roe deer (*Capreolus capreolus*) in Switzerland

Martin Wytttenbach, University of Applied Sciences in Zurich (CH)

Human activities can influence wildlife in various ways. The term «anthropogenic disturbance» is used when human activities affect wildlife negatively. Impacts differ between both species and individuals, and they also depend on the type, intensity, and predictability of disturbances. Anthropogenic disturbances can affect an individual animal directly, but in the longer term they can also influence entire wildlife populations. The effects of new patterns of recreational use such as night rides with bright floodlights are hotly discussed topics associated with the management of recreational forests. Animal ecology so far has mainly focused on spatio-temporal behavior of individuals in undisturbed remote areas, while research on human behavior mainly focused on visitor conflicts in highly frequented recreational forests. Therefore, our knowledge about the effects of new recreational activities on wildlife is currently insufficient. We studied the effects of mountain biking events on the immediate spatio-temporal reaction and subsequent habitat use of roe deer. Furthermore, we compared the effect of on-trail mountain bike events with other disturbance events that occurred on trail such as hunting, orienteering and on-site observations. Our study was conducted at the Wildnispark Zurich and its surrounding forests, about 7 km south of the city of Zurich, Switzerland. The study area contains the typical fauna and flora of a Swiss midland mixed forest. The Wildnispark Zurich consists of a protected core area and a surrounding area with high recreational use due to its proximity to the city of Zurich. The research design consisted of systematic bike rides through the habitats of GPS-collared roe deer. GPS data of both bikers and roe deer allowed us to identify the exact disturbance time and location, and observe the immediate reaction of the roe deer. The results of this study give a first insight into an important topic concerning the management of recreational forests and may provide some support for landscape management when questions of wildlife refuges or wildlife protection are discussed. In addition to the results of the mountain bike study, the presentation will provide insights into the development of new trends in outdoor sports such as trail running and e-mountain biking in the Alps, including suitable monitoring technologies. Furthermore, experiences and recommendations on the handling of wildlife and leisure use from other research projects are communicated.

WeWild project: Alpine-wide cooperation and action for increased environmental awareness in nature sports

Dominik Cremer-Shulte, ALPARC (F)

For more than 20 years, numerous stakeholders in the European Alps have set up awareness raising initiatives and on-site visitor management measures to reduce wildlife disturbance in winter. Those initiatives, however, do not cover all the natural areas under pressure. In some regions, regional and local actions are disconnected from initiatives elsewhere, which results in fragmentation of tools and messages even inside single countries. In addition, there are still some Alpine States where visitor management and awareness raising are lacking. This is particularly critical at the dawn of new human pressures resulting from increased nature sport practice and technical evolutions, e.g. e-mountain biking. In the WeWild project, ALPARC aims at developing, for the protected

areas of the Alps, a joint communication strategy and awareness-raising tools. Among those tools is the international cooperation initiative: “Be Part of the Mountain”. The initiative shall help to increase the awareness of nature sport impacts among target groups, enable exchange of knowledge and know-how and contribute to the visibility of the many existing initiatives, across the Alps.

Impact and sustainability of ski slopes management on mountain grassland ecosystems in South Tyrol, Italy

Sara Casagrande Bacchiocchi, Camilla Wellstein, Stefan Zerbe, Faculty of Science and Technology, Free University of Bozen/Bolzano; Lohengrin Cavieres, Facultad de Ciencias Naturales y Oceanográficas, Universidad de Concepción, Concepción, Chile

Due to climate change in the Alpine environment and thus more frequent lack of snow during winter, ski pistes are increasingly created with artificial snow. According to the Istituto Provinciale di Statistica-ASTAT of the Province of Bolzano (2015), tourism is one of the leading sectors of the economy of South Tyrol. For this reason, the use of snowmaking is of crucial economic importance for this area, and it might even increase in future, since temperatures are expected to rise further both in winter and in summer. On the other hand, natural snow is decreasing and cannot guarantee an adequate protection of the soil from low temperatures and from freezing during winter. Besides the large regional ski resorts in South Tyrol, 38 small local ski resorts are present. These small ski areas rely on natural snow availability and their ski season is usually concentrated between two and three months. They play a fundamental social role in the isolated valleys of the province. This study was carried out in a particular year, in the winter 2016-2017, where no precipitations before February occurred. This winter well represents the inter-annual variability of snow cover regimes predicted by global warming models. Our research team addresses two main questions, i.e. 1) what is the impact of changing properties of the snowpack on the vegetation of ski pistes and 2) does the impact on the grassland ecosystem change between medium-sized and small ski resorts? In this study, vegetation records, snow and soils on 10 ski pistes of a medium ski resort in South Tyrol, Italy, were investigated to identify the impact of ski management practices and of different snow cover durations in soil and in grassland vegetation. At the same time, vegetation records were performed in 3 small ski resorts to investigate changes in grassland vegetation induced by the different ski management practices. Our experimental approach follows a pairwise design of plots on ski pistes and adjacent control plots outside the pistes. Our results indicate that 1) the lack of snow and snow scarcity outside the ski slope lead to soil freezing at the same amount of the artificial snow cover on the ski slope and 2) ski management practices affect grassland vegetation, but the effects in the small ski areas are more restrained compared to the medium-size ski resort.

“Freedom with Respect” – the awareness campaign for sustainable mountaineering in South Tyrol

Franziska Zemmer, Department of Nature and Environment, Alpenverein Südtirol

Human impact on mountain ecosystems has increased with rising numbers of recreation seekers in the Alpine environment. As representative of almost 70.000 members the Alpenverein Südtirol (AVS) runs an awareness-raising campaign for sustainable mountaineering. The aim is to sensitize outdoor users to practice sports in line with requirements of nature and wildlife, by giving them behavioral advice and informing them on the biology and habitat requirements of species. The campaign “Freedom with Respect” (“Freiheit mit Rücksicht”) was first launched in winter 2010 to address ski mountaineers and snow-shoe hikers. Trails and backcountry slopes may overlap with the winter habitats of sensitive species such as Tetraoninae (black grouse, rock ptarmigan, and capercaillie) or wild ungulates (red deer, roe deer, chamois, ibex). Disturbance can compromise their ability to survive the winter bottleneck. The winter campaign includes an information brochure delivered at trainings and courses of the AVS as well as active channeling of users on site. Information tables and marked trails are further measures to reduce impact of leisure activity on wildlife. Though the impact of winter sports activities on wildlife might be of greater concern, also summer outdoor activities, such as rock climbing, can disturb wildlife. Some climbing areas may be located in the brooding habitats of birds of prey (e.g. golden eagle, peregrine falcon and Eurasian eagle-owl). In 2018 the campaign was thus extended to promote sustainable rock climbing. We started the summer campaign in the climbing area Ciastlins located in the Natura 2000 site Nature Park Fanes-Sennes-Prags. Information tables on site inform about the potential conflict of climbing activities with the breeding requirements of the golden eagle. The key message is to climb within in the designated climbing garden and not to explore new rocks beyond, which belong to the core habitat of the eagle. “Freedom with Respect” communicates all activities online on social media and at www.alpenverein.it. When appropriate also other channels such as radio, TV and print media are involved in the communication. The campaign is entirely based on the goodwill of mountain-lovers to adapt their outdoor-activities for the benefit of wildlife species and their habitats. The campaign works closely with the public administration, other NGOs, and with local stakeholders in order to generate the greatest possible impact and public acceptance. “Freiheit mit Rücksicht” of the AVS is the Italian initiative following suit of the Austrian campaign “Respektiere deine Grenzen” also promoted by the Swiss Alpine Club, and the “Natürlich auf Tour” campaign conducted by the German Alpine Association (DAV)

ANIMAL VEHICLE COLLISION

Chair: Annette Mertens, Agristudio Srl, Italy

TUESDAY 11:00 – 12:30

Ungulates and road accidents: an analysis for the Province of Turin (Italy)

Eloisa Massobrio, University of Turin; Paolo Tizzani, Department of Veterinary Science, University of Turin

Road accidents caused by wildlife have increased in the last decades in many countries, representing one of the most significant causes of biodiversity decline due to human activity. The expansion of the road network, the rise of vehicular traffic and the increase of wildlife density, have produced a significant increase of collisions. Roads have a fundamental role in habitat fragmentation: they reduce connectivity and environmental permeability; they act as barriers and in some cases can interrupt the genetic flow between individuals. In addition to the costs for society, losses of biodiversity must also be considered: for many species of vertebrates, road accidents are one of the main causes of mortality caused by man. An increasingly used method of study for analysing the problem is based on the examination of temporal and spatial patterns of the accident points. This approach is used to analyse road accidents caused by wild ungulates in the Province of Turin (Italy). About 2500 accidents caused by them were analysed in the years between 2004 and 2009. Temporal trends were examined using statistical tests to assess the presence of a significant risk related to the month and day of the week in which the accidents occurred. While for the spatial trends the accident points were geo-referenced: only for 15.3% it was possible to accurately locate the point of accident. The areas with the highest concentration were identified through cluster analysis. Finally, experimentally, four video traps were placed for a total of 200 days between April and December, to assess the behaviour of animals near road crossing. The results show that the species most affected by events are roe deer (*Capreolus capreolus*) and wild boar (*Sus scrofa*). The greatest number of accidents occurs in specific periods of the year, linked to different biological and etho-ecological factors depending on the species considered. During these timeframes, the probability is higher that the animals make more movements and cross the streets. While the analysis of cluster areas showed that the areas affected by the phenomenon are some Alpine valleys in which the vehicular traffic is greater and where there is higher density of ungulates. In conclusion, it was found that the analysis of temporal and spatial patterns related to collisions serves to better understand the dynamics that underlie road accidents and can be used as a starting point for developing prevention and mitigation strategies. The concepts extrapolated from the collected videos can be used to support the study of temporal and spatial patterns, and become an additional aid for the prevention of road accidents with wildlife.



Conservation science for the management of transportation systems mountain landscapes in western Canada

Anthony P. Clevenger, Western Transportation Institute, Montana State University, USA

National parks and other protected areas were typically created and managed for the preservation of natural heritage and conservation of biodiversity. However, recreation, tourism and human infrastructure within these refuges' areas can have negative consequences on wildlife populations. Across southern Canada and the conterminous USA, most of the land designated as a protected area occurs in mountainous landscapes. The complex topography of these ecosystems is characterized by a natural pattern of fragmentation entailing productive and speciose habitats at lower elevations that are interspersed with largely low-quality habitats of steep rocks, snow and ice at higher elevations. It is in these biologically-rich valley bottoms where anthropogenic activity is also concentrated, including disturbances from recreational activity, residential developments, resource extraction and transportation corridors. Despite the popular perception of these protected areas as vestiges of remnant wilderness, the behavior and activity patterns of wildlife moving through mountainous protected areas can be affected by a number of anthropogenic disturbances. These sub-lethal changes in wildlife activity can emerge as changes in animal physiology, the probability of human-wildlife conflict, and inter-specific interactions. To ensure the safe and sustainable co-existence of people and wildlife in mountainous areas, there is a pressing need to better understand how wildlife activity changes in response to human activity. One of the most expensive and well-documented efforts to mitigate anthropogenic disturbances to wildlife occurs in Canada's national parks, where a series of fences and crossing structures have been built to facilitate the movement of large mammals across a major highway. Banff National Park possesses the first large-scale complex of highway mitigation for wildlife of its kind in the world. Nowhere in the world are there as many and diverse types of wildlife crossing structures and associated biological data on wildlife distribution, movement and ecology. Over the past 25 years, the wildlife crossings in Banff have been a model of worldwide importance. The significance of the Trans-Canada Highway (TCH) wildlife crossing structures has led to Banff assuming international leadership in highway mitigation performance and evaluation, design criteria, and connectivity studies for wide-ranging animals at a landscape scale. In short, it is the perfect natural laboratory for understanding the conservation value of highway overpasses and underpasses for a variety of wildlife species. In spite of this major highway, over 150,000 wildlife crossings have been recorded at these structures, rates of wildlife-vehicle collisions have dropped off, and demographic and genetic connectivity continues. By ensuring that key ecological processes are connected, highway mitigation is arguably one of Canada's greatest conservation success

stories. We have quantified the effect of the crossings on predator-prey interactions, gene flow, diel activity patterns, behavioural responses to crossing designs, and the role of humans in shaping where and when wildlife cross the highway. Integrating our efforts with concurrent studies from across the region, a new picture is emerging of critical links between local and regional-scale conservation efforts. We report on what we have learned during 17 years of research, in three discrete phases of research that encompass varying levels of transportation management and ecosystem concerns. We discuss the strategies we have adopted to not only garner research support from outside organizations, but also communicate the resulting science through education and art.

Animals and infrastructure: management in PWR Mont Blanc

Marion Guitteny, ASTERS (FR)

Connectivity problems are gathering in the bottom of the valley, due to the density of urbanization and infrastructures. Linear infrastructures like roads are impediments for fauna's mobility: fences, low wall and embankment prevent the animal crossing, somewhere in large areas. Infrastructures are also points of conflict, because collisions make damages for road users and wildlife. Asters-CEN74 is a project partner of Alpbionet_2030. One of its aims is to help local authorities better integrate biodiversity and ecological connectivity stakes into local strategies and policies. We will present several solutions for this conflict applied or in reflexion in the Project Working Region Mont-Blanc.

1- Dialogue with stakeholders

- Workshop with motorway/road and fauna managers
- Monitoring of urbanisation's documents to integrate ecological network
- Involve elected representatives and others stakeholders in different steps of the project

3- Solutions to decrease collisions

- Road sign
- Reflective stake
- Improve visibility
- Structures for fauna

2- Improve knowledge

- Inventory collisions
- Integrate data on maps
- Scientific studies about mobility (ALCOTRA program "Ibex")
- Camera trap

4- Communication

- General communication about ecological connectivity and road collisions
- Communication for users : to drive carefully
- Communication for road managers

Seasonal movement corridors for brown bears in Croatia

Daniele De Angelis, University of Roma "Sapienza"; Djuro Huber "Faculty of Veterinary Medicine, University of Zagreb; Josip Kusak "Faculty of Veterinary Medicine, University of Zagreb; Goran Gužvica "Oikon Ltd. – Institute of Applied Ecology; Manuela Panzacchi "Norwegian Inst. for Nature Research; Slaven Reljić "Faculty of Veterinary Medicine, University of Zagreb; Lidjia Šver "Laboratory for Biology and Microbial Genetics, Department of Biochemical Engineering, Faculty of Food Technology and Biotechnology, University of Zagreb; Bram Van Moorter "Norwegian Inst. for Nature Research; Paolo Ciucci "University of Rome "La Sapienza", Dept. of Biology and Biotechnology "Charles Darwin"

Habitat loss and fragmentation are among the major causes of species extinction and are often associated with a critical reduction in landscape connectivity. Lack of connectivity can severely hamper species ability to undertake long-distance movements (e.g. migration, dispersal), impeding both gene flow and access to critical habitat. In patchy environments, bears might need to travel long distances to reach areas characterized by resource abundance and meet seasonal energetic requirements. In some European brown bear populations, the need for increasing pre-wintering food intake (i.e. hyperphagia) can lead to individual migration-like movement patterns, with animals completing long-distance round trips to resource-rich areas from their summer ranges. Recently developed tools allow researchers to study landscape connectivity using individual-based movement data, disentangling animal responses to both environmental and anthropogenic features that may act as barriers to animal movement. In this study, we used the Global Positioning System (GPS) relocations collected from 11 Dinaric brown bears in Croatia (from 2005 to 2017) to project suitable corridors connecting summer and fall habitat. To this aim, we used Resource Selection Functions (RSFs) based on bear relocations representing stationary behaviour (i.e. feeding or resting) to model suitable habitat patches in summer and fall separately. Second, we used Step Selection Functions (SSFs) based on animal trajectories representing active travelling by bears to predict the degree of landscape friction to bear movement. Finally, we used Randomised Shortest Path (RSP) algorithms to project potential bear corridors at the landscape scale. Compared to traditional algorithms, which assume either random (e.g. current models) or optimal (least cost path) animal movements, the RSP method allows for more ecological realism. Our results show substantial differences between habitats selected by bears during the two seasons, possibly reflecting main dietary shifts between the seasons. According to our findings, bears can successfully travel across sub-optimal patches to reach suitable habitat in the fall, although the presence of anthropogenic structures such as highways, main paved roads, railways, and cultivated fields strongly decreased the probability of bear traveling. Ours is a promising approach to integrate more classical habitat selection studies and cutting-edge movement algorithms to predict animal connectivity across human-modified landscapes.

STAKEHOLDER ENGAGEMENT

Chair: Gerardo De Luzenberger, University of Trento, Italy

11:00 – 12:30

A Park giving Voice - Listening, Sharing, Participating to Preserve

Stefano Santi, Ente parco naturale delle Prealpi Giulie; Comuzzo Cristina, Ente parco naturale delle Prealpi Giulie - External consultant; Vezzaro Sara, Villaggio degli Orsi

INTRODUCTION: Stakeholders' involvement can entail success or failure in nature conservation. The Regional Nature Park of the Julian Prealps, which was not born through a participatory process, has strongly felt the importance and the need to know and deepen some of the problems that characterize its territory in order to seek and find common and shared solutions. ALPBIONET2030 project performs an excellent opportunity to undertake this process, even in a cross-border dimension. Hence, the protected area, also in collaboration with different partners and in particular with the Association "Village of the Bears", has activated a set of initiatives

in order to face the problems identified and propose some strategies for managing them. Among these, the most significant are Workshops and Ecotourism. WORKSHOPS: Workshops are the ideal place to debate and elaborate in a participative way proposals and strategies; they give the possibility to bring together the various stakeholders to allow the comparison of different opinions. In particular, the first meetings allowed the achievement of the following results: 1) A proposal to create a map (both in GIS and in paper format) about transhumance and the location of main man-nature conflicts; 2) A proposal to develop both awareness-raising activities for the public, before the flocks transfer in order to increase social acceptance (reduction of complaints) and targeted information and educational activities, in collaboration with the Slovenian side; 3) The need to support the breeders in the guard dogs purchase and integration in the flocks. The continuation of this initiative involves the realization of what was proposed and the drafting of guidelines for the correct management of the identified problems. ECOTOURISM: The Park, in collaboration with the Association "Village of the Bears" has identified ecotourism as a practical tool for experimentation and implementation of strategies for coexistence. In recent times, the Park with its partner has developed ecotourism activities, in which some stakeholders were the protagonists. These initiatives have allowed the involvement of a large audience to which stakeholders present their activities and expose the issues. These events allow us to create positive debates that give a contribution to the identification and creation of methodologies and strategies useful for the conservation of the natural heritage and increase awareness about the importance of the Large Carnivores presence in the area as a resource to protect and preserve. CONCLUSION: The initiative taken by the Park and the Village of the Bears, together with the stakeholders, is aimed at building a network in which all involved protagonists can be activators and managers of operational tools for coexistence between man and nature. This set of activities certainly will go on in the years and can be an example to follow for other regional, national and transnational contexts.



RESICETS: Environmental resilience of recreational activities in the Ossola Protected Areas through the European Charter for Sustainable Tourism

Piazza Daniele, Cipra Italia; Pastorelli Francesco, CIPRA Italia; De Negri Ivano, Ente di Gestione delle Aree Protette dell'Ossola; Bionda Radames, Ente di Gestione delle Aree Protette dell'Ossola

Outdoor recreational activities are becoming more and more popular among tourists and alpine enthusiasts. Although this phenomenon has positive implications for the mountain economy, it is a new challenge for the managers of the Alpine protected area, as such activities are known to produce also negative impacts on wildlife (especially during winter or breeding periods) and sensible habitats. Addressing the impact of recreational activities on habitats and species of the protected areas at the local level is an important and difficult task: in order to manage it, we need an integrated strategy that relies on the participation of all the stakeholders involved in the local tourist chain (including the users) together with an open and constructive overview. Therefore, we need adequate information for tourists, but also training courses for local operators and adequate management and planning tools for protected areas. CIPRA Italy is working alongside the Ossola Protected Areas Management Body on the project RESICETS. The project, supported by the Cariplo Foundation, has a duration of three years (January 2018 – December 2020) and relies on a holistic approach as well as on engagement of local stakeholders in order to cope with the problem. RESICETS is a structured initiative that aims at involving various players in the local tourism chain, concerning a path of information and awareness, as well as economic and territorial development: in fact, the European Charter for Sustainable Tourism-CETS promotes the certification of those tour operators (alpine guides, escorts, reception activities) who work alongside the Park Authority for the management and reduction of the impact of recreational and tourist activities. Such certification increases operators' visibility at the local and wider level and makes them part of a virtuous network. This ambitious and innovative initiative is one of the first activated in this field in Italy. It proposes a bottom-up strategy based on participation and sharing of solutions. It includes activities ranging from monitoring of tourism to operators' training, from activation of a tailored information campaign to the preparation of some low-impact winter hiking trails. A tight link is also established with ongoing Natura 2000 sites planning activity. RESICETS is linked to the "Be Part Of The Mountain" initiative, coordinated by ALPARC, the Alpine Protected Areas Network. This is a shared communication campaign

which aims to raise the awareness of outdoor participants with regard to the problem and to give greater visibility to local initiatives launched in individual areas. The presentation aims at illustrating the proposed strategy as a replicable and scalable initiative for territories which are tackling the same problem.

“Like lambs in the midst of wolves...” Stakeholders’ engagement in the LIFE WOLFALPS project

Carlo Maiolini, Muse (IT)

Bottom-up approach was a key attitude in the LIFE WOLFALPS (LWA), a European project that from October 2013 to May 2018 implemented coordinated actions for wolf conservation and management on the Alps (www.lifewolfalp.eu). Accordingly, stakeholders’ engagement was a key element, and in the course of the LWA development the relationships between the project consortium and the interested parties were articulated in a large set of actions. The first level of engagement was the creation of a network of project associated partners. Local administrations, institutions, association, NGOs, and other interested actors in the natural return of the wolf on the alpine arc, were invited by the consortium to draft and sign an agreement to support the project conservation, prevention, and communication actions. Secondly the project communication team, in strict collaboration with the conservation team, run an in-depth analysis that mapped the main stakeholders’ profiles, their interests and their main issues with the natural return of the wolf. The consortium used the analysis to fine-tune important project actions such as communication and prevention actions. This qualitative study was supported also by the quantitative data harvested in the context of a stakeholder’s human dimension survey run ex-ante and ex-post project intervention. Thirdly, in the course of the project two partners (Ente di Gestione delle Alpi Marittime and MUSE – Museo delle Scienze) decided to host periodic meetings with local stakeholders called “Local Dialogue Platforms on Wolf – Human Coexistence on the Alps”. These Platforms proved to be extremely useful in maintaining contact with the key actors on the territory, keeping the project well “grounded to the floor”, and they are now a standard mediation tool of local authorities in the Alps. For key stakeholders like livestock breeders, hunters, and schools, we developed custom engagement programmes with dedicated meetings, events and publications. In general terms, the LIFE WOLFALPS project approached the delicate theme of stakeholder’s engagement – and here we return to the gospel metaphor of the title – being “shrewd as snakes and as innocent as doves” (Mathew 10:16). The LIFE WOLFALPS “shrewdness” came from the accurate study of the impact of the wolf on the interested categories, selecting accordingly the best conservation, prevention and communication actions available to the consortium. The LIFE WOLFALPS “innocence” came from the consortium being an accountable third party with no special interests because composed of different transregional alpine institutions, all acting on the single mission of fostering wolf-human coexistence on the basis of objective, scientific knowledge.

Landcare - cooperative stakeholder engagement and implementation of connectivity measures

Kaerlein Marie, Landcare Germany (DVL)

The German Association for Landcare (DVL) is the umbrella organization of 165 Landcare Associations (LCA) distributed all over Germany. The independent local LCAs manage the cultural landscape in Germany, which has been shaped the last centuries by regional land use systems. Not only many species, but also large parts of the German cultural heritage depend on our cultural landscapes and its connectivity. It is the task of all LCA and the DVL to restore and maintain the cultural landscapes by working in cooperation with local municipalities/ authorities, farmer organizations and nature conservationists to strengthen local communities, protect and connect biodiversity as well as to enhance a sustainable livelihood. In Detail LCA act as advisors and mediators, plan measures to improve the ecological value and connectivity of our cultural landscapes, open up financial resources and coordinate the implementation of measures. Landcare Associations also help to set up local value chains by preserving local biodiversity by the marketing of high-quality products as well as contribute to farmers’ income by Landcare measures. Examples of Landcare Associations in mountainous areas will be presented.

PLENARY OPERATIVE SESSION

13:45 – 17:00

Open Space Technology: participant-driven process to support positive transformation

Gerardo De Luzenberger, IAF – International Association of Facilitators CPF - Certified Professional Facilitator

The final session of the workshop was designed with the purpose of including in the programme an operative session to offer participants the opportunity to interact and to work on what they were more interested. More in details, the aim of this operative session was to:

- Promote a knowledge sharing and exchange among participants;
- Facilitate a networking activity among participants;
- Create a space in which participants could look forward, search for partners and launch new project ideas.

In order to achieve these goals, different methods and techniques have been evaluated and the “Open space technology” (OST) was chosen as the most appropriate approach to manage the session.

OST, WHAT IT IS AND HOW IT WORKS

The OST is a method for organizing and running a meeting or a conference, where participants have been invited in order to focus on a specific, important task or purpose. It is a participant-driven process whose agenda is created by people attending.

It was born in the first half of the '80s by the intuition of Harrison Owen. In his job as meetings and conferences organizer, he has observed that often in this kind of events the most interesting things do not happen during the programmed work sessions but during the not organized time slots, as for example coffee breaks. According to participants, during this special time-slots people speak only and exclusively of what they are interested in, with people who tend to share that interest, for the time strictly necessary for discussion. These are the main reasons from which the OST was conceived.

Since then, the OST has shown itself to be a work modality suitable to deal with complex issues in which a differentiated group of people has to interact in an innovative and creative way in a short period of time.

Working with the OST means radically changing attitudes towards events' organization, and especially towards participants. It is necessary to believe in people and their ability to do, leaving them free to follow their passions and interests without being conditioned. In fact, according to Harrison Owen, the ability to self-organize a system depends on the passion and responsibility that animate it. Passion and responsibility are the driving force behind the OST. It works because it opens the space and time to the participants allowing them to demonstrate and exercise their passions in absolute freedom, provided they take responsibility for doing so. For this to be possible, they must be left free to follow their own interests, having the possibility to organize their work as they see fit. This approach overturns the traditional approach to participatory planning and organizational development.

Concretely, the OST is self-managed by the participants, from the definition of the program to the management of individual group sessions. Participants create and manage their own agenda of parallel working sessions around a central theme of strategic importance. At the end of each OST meeting, participants themselves create an instant report summarizing the work of the group. All reports are collected and collated in a final document, which represents the final proceedings of the meeting, that is available right after the end of the meeting.

Finally, the OST turns the role of facilitator, too. In fact, the facilitator is no longer a figure that helps a group to be more productive and focused, to resolve its internal conflicts, to enhance the contribution of everyone, but someone who above all invites others to work indicating a direction and trying to influence the work as little as possible.

USE OF THE OST IN THE FRAMEWORK OF THE NATURE INTERACTIONS AND CONFLICT MANAGEMENT IN MOUNTAIN ENVIRONMENT CONFERENCE

Using the OST in the framework of the nature interactions and conflict management in mountain environment workshop was discussed by organisers/EURAC staff in collaboration with a professional certified facilitator, Gerardo de Luzenberger from Genius Loci who facilitated the event.

As already mentioned above, the aim was to include in the framework of the conference a different kind of session to give the opportunity to participants of a space in which they could connect with other experts, explore potential common initiatives, share knowledge and ideas, launch new projects and, generally, go on easily on what they consider more interesting.

Considering the different sessions and topics of the workshop, the decision made was to reserve the last session of the programme to the OST – dedicating in this way approximately 4 hours to the open space session. The basic idea, and the motivation behind our choice of using this technique, was to provide an amount of time, and a reasonable physical space, in which participants could partner up and develop new ideas based on common problems/issues in their respective areas.

Few questions were asked at the participants at the beginning of the Operative Sessions:

- Do you have a project idea and you are looking for someone to discuss it and develop it?

- Is there something you heard during the sessions that you would like to reflect on and go deeper?
- Are you looking to meet other researchers or practitioners and share your own learnings and challenges?
- Would you like to invite other conference participants to discuss with you something you really care about?

THE SESSION PROGRAM

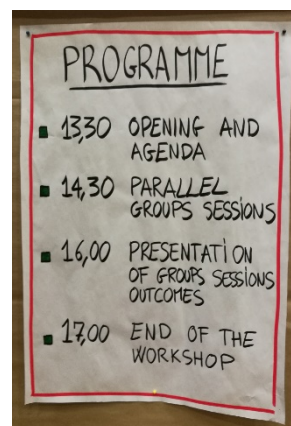
The session was designed by a team composed by Federica Maino, Andrea Omizzolo from EURAC in collaboration with Gerardo de Luzenberger from Genius Loci. Designing the session, particular attention was devoted to guarantee to participants a space in the programme in which they could have the opportunity to connect with other experts, explore potential common initiatives and define new projects.

The open space was facilitated by Gerardo de Luzenberger with the support of Andrea Panzavolta.

At the open space was dedicated the last part of the conference. Works started on day 2, right after lunch, at 13.30 and ended at 5 pm, right before the conference closure.

During the first work in plenary, participants proposed several topics and cases that were collected into the following parallel sessions:

1. Evaluation of communication activities
2. How to raise awareness on conflict management at political level
3. Ecotourism and conservation
4. Over tourism conflicts in "Drei Zinnen" park: promoting mountains for everybody, nature– local people – tourism
5. Conserving landscape biodiversity: food production, regional provenience, identity rural/semirural community
6. Multinational platform for Animal Vehicle Collisions (AVC data collection and analysis) - New AVC mitigation systems - Evaluation of mitigation systems
7. Definition of "problematic wolf"? (and of "problematic politician"?)
8. Livestock protection initiative
9. New approaches to visitor guidance systems



Working in group sessions, participants discussed those issues and prepared a presentation of the main session outcomes. At the end of the parallel sessions, a group representative made a brief presentation of each session outcomes during a plenary session. Participants had time to ask questions and sign in projects if they were interested in that. The final part of the session was dedicated to a general evaluation of the conference.

THE SESSION OUTCOMES

The session was very dynamic. Participants met in groups, worked with others, reorganise in different groups, networked and had fun. Some sessions were focused on new initiatives, in some others the discussions started in other conference sessions and workshops seemed to continue and sometimes come to an end. What follows is a brief summary of the key insights emerged from the reflections in the final plenary sessions.

IMPACT OF COMMUNICATION ACTIVITIES: communication activities play a very important role in most of the project developed in the field of nature conservation and human nature interactions. At the conference many best practices in the field of communication have been presented and discussed. But what is the impact of these activities, are they effective or not? The group: discussed the opportunity to define a set of indicators that could be used to assess the efficacy of communication activities in projects; identified and discussed some possible approaches to communication activities evaluation, and the need to integrate project teams with communication experts.

IMPACT OF TOURISM ON HABITAT AND SPECIES: tourism could be very important for the economy of mountain regions. But, of course, it could also represent a threat for the natural ecosystem of these areas. How to manage situations in which tourism becomes a problem? Is it possible to develop models of eco-tourism, or sustainable tourism? These issues were discussed in two different groups, starting from two different real situations – one in an area close to Bolzano, one in Germany. During plenary session what came out was the need to find new ways to manage tourism in local areas. Several different approaches were discussed, and potentially some new collaborations launched between participants on these issues.

THE ROLE OF POLITICS AND POLITICIANS: the presence of large carnivores - wolves and bears, has a great impact on local communities and has become, in the last years, an important political issue capable of influencing elections and more in general the political life. During the open sessions these issues were discussed by different groups, starting from the real experiences that many of the participants are making at local level. During the plenary session, participants came out with some important reflections on the role of politics and on the importance of creating awareness at political level on these issues. Some proposals were made on how to raise awareness in local communities, and at political level – especially to increase the understanding of the importance of protecting large carnivores.

ANIMAL VEHICLE COLLISIONS: animal vehicle collision has become in the last years a big problem, not only for animal conservation but also for the cost of the damages caused by collision. A project that is going soon to be launched on this topic was presented and discussed during the session, also considering the opportunity to develop new partnerships on this field among the people involved at the conference.

LANDSCAPE BIODIVERSITY: the concept of biodiversity can be interpreted at many different scales. During the session a group discussed the importance of preserving landscape biodiversity – including in this concept not only animals but also stakeholders and cultural issues, as well as economic ones. Several different ideas on how to preserve and promote landscape biodiversity were discussed, and some best practices shared. Participants agreed on the importance of working on these issues, and some possible actions were discussed and presented.

Participants of each group were then put in contact in order to allow them to create new project consortium or new collaborations and to share their local findings, experiences and methodologies (examples in figures 3 and 4).

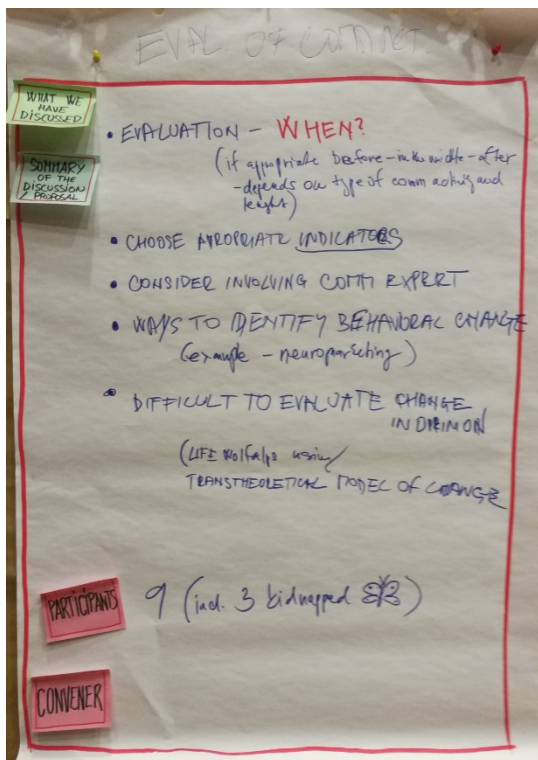


Figure 3 - Evaluation of communication activities

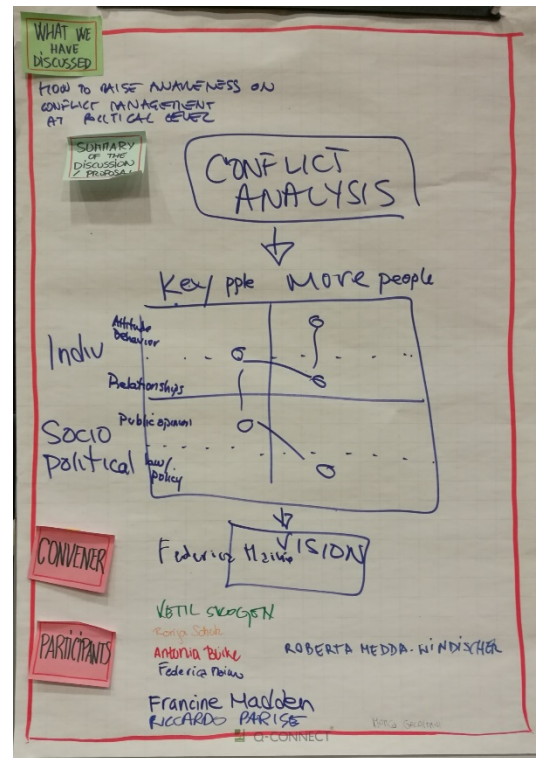


Figure 4 – Raise awareness on conflict management at political level

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https://www.alpine-space.eu/projects/alpbionet2030/en/infoservice/downloads/eurac-workshop_human-nature-conflicts

KEYNOTE SPEECHES

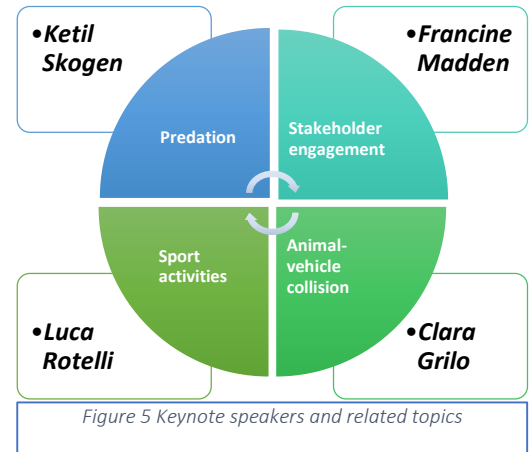
Adding something special to the event

The presence of a powerful scientific voice helps participants to better receive inputs related to the workshop topics.

Keynote speakers, being renewed researchers and practitioners, can provide an overview on a specific topic, preparing the audience to be open to the upcoming case studies.

Speakers for this event opening were chosen among representative and experienced profiles from different countries, close to issues addressed:

The four keynote speakers were asked to present their own experience in the field concerning a specific conflict topic, and also to provide an overview of the current state of research and implementation.



Ketil Skogen

Dr. Skogen described the work of social scientists from NINA (The Norwegian Institute for Nature Research) about the human dimension of wolf management in Norway. According to their researches, several conflicts occurred in places where the wolf reappeared, especially along the southern part of the Swedish border. *“Conflicts over wolves are social conflicts”*, he said, and *“about wider processes of social change perceived as threatening by many people in rural areas”*. In Norway, wolf protection is perceived as a potent expression of a changing land use regime, seen as threatening rural economic activities and traditional rural lifestyles. Instead, wolf protection may be seen as defending the rural economy and rural culture against harmful outside forces. The carnivore’s management system is strongly influenced by livestock concerns and compensation system is mostly not enough to mitigate the problem.



Figure 6 Ketil Skogen

Luca Rotelli

Dr. Rotelli explained the complex relationship between wildlife and outdoor sport activities. *“Sport and leisure activities can be divided into two broad categories”,* he affirmed, *“Those with high environmental impact, which need infrastructures to be practiced, and those with low environmental impact, which don’t need any infrastructure to be practiced”*. Both activities could interfere with and differently affect wildlife. As these outdoor activities can be practiced everywhere, their negative effects can be spread on large areas inside the natural habitats where they take place.

Winter is the most sensitive period of time for many species. After having lost wide areas due to the construction of ski resorts, now the spread of outdoor activities has caused the loss of the last habitats left undisturbed for the wildlife and the result is that interactions between people and wildlife are always more frequent. Worst possible consequences is that wildlife has lost important spaces for natural activities (e.g. wintering and breeding areas).



Figure7 Luca Rotelli

Clara Grilo

Dr. Grilo gave, thanks to a specific project, a comprehensive overview to understand the problematic theme of animal-vehicle collisions. *“Most accidents with wildlife are caused by wild ungulates”,* she said, *“and cost in Europe can reach up US\$ 1 billion”*. She explained which species are particularly vulnerable to traffic in specific areas. She presented statistical methods to identify animals-vehicle collisions clusters and an interesting analysis to define appropriate mitigation measures for different species. She also analyzed the cost-benefits of mitigations over the long-term and tested the effectiveness of mitigation of animals-vehicle collisions.



Figure 8 Clara Grilo

Francine Madden

From her long experience, she spoke about the “dimension” of conflict impact. She detected three levels of conflicts: dispute, underlying conflict and deep-rooted or identity-based conflict. She introduced her Conservation Conflict Transformation program to address all human needs and prevent collateral damage. “*The starting point is to analyze social conflict dynamics*”, she said. She explained how conservation projects need systematic inclusion of an early and ongoing analysis of the social conflict dynamics to understand the human influence in creating and exacerbating conflict and foster social conditions that support constructive decision-making toward sustainable conservation. Human have six different needs: identity, recognition, security, connectedness, personal fulfillment and freedom.



Figure 9 Francine Madden

PARALLEL SESSIONS – GENERAL OVERVIEW

Exploring detailed case-studies

Predation

The session on “PREDATION” wanted to provide case studies of interactions with large predators (mainly wolf and bear) that could be turned into an opportunity for the territory.

Clara Tattoni, from the Science Museum of Trento MUSE, described how, despite the occasional damages to the agriculture and farming, the presence of large carnivores (*brown bear in this case*) in the Trento province can provide benefit for the tourism sector, attracting nature lovers and wildlife watchers. Dr. Tattoni proved that the so called “flag species” effect, i.e. the impact on the image of an iconic mammal such as the bear, on a tourism destination, can bring valuable, monetary but not only benefits for the local development.

Max Rossberg, from the European Wilderness Society, exposed the main challenge for people living in mountainous environments, meaning to accept presence of diverse wildlife species and recognizing their intrinsic value, while keeping damages made by wildlife at a tolerable level. Dr. Rossberg explained the current use of mitigation and protection systems for livestock and the efforts that have to be done to define a single common standard of effective livestock protection, using simple guidelines, while being affordable and practical to implement.

Julia Stauder, from Eurac Research, described the current knowledge and attitude of residents and tourists in South Tyrol regarding the return of the wolf in this part of the Alps. Also in South Tyrol the wolf is naturally returning. This has caused conflicts on different social and economic levels. For this reason, Eurac wanted to investigate the current knowledge and attitude of local people and residents through a survey that demonstrated differences in attitude and perceptions between target groups, also depending on factors like age classes, knowledge level, place of residence and others.

Marco Arimanni, of the Adamello Brenta Nature Park Trentino, described the importance of the social habitat regarding the conservation of brown bear and wolf. Through surveys and interviews, they analyzed data about the reactions of the bears at different encounters distances with humans, demonstrating a change in the attitude of local people after the reintroduction of the brown bear in Trentino in the last 20 years.

Sport Activities

The session on “SPORT ACTIVITIES” focused on the evaluation of potential disturbance to wildlife species given by sport activities in mountain areas, on the raise of awareness of mountain users and on the sustainability of tourism facilities.

Marcel Hunziker, of the Swiss Federal Research Institute WSL, described the current conflict between snow free riders and wildlife. He exposed the evaluation study of the effectiveness of the free riders’ awareness campaign. The results of the study support the value of specific target-group oriented on-site measures influencing the behavior within a short period of time.

Martin Wyttenbach, from the University of Applied Sciences in Zurich, described the mountain bike experiment with roe deer, aiming at evaluating the effects of mountain biking events on the immediate spatiotemporal reaction and subsequent habitat use of roe deer. The results of this study give a first insight into an important topic concerning the management of recreational forests and may provide some support for landscape management when questions of wildlife refuges or wildlife protection are discussed.

Dominik Cremer-Shulte, from ALPARC, talked about the WeWild project, aiming at increasing the environmental awareness of nature sport practitioners. In the WeWild project, ALPARC aims at developing, for the protected areas of the Alps, a joint communication strategy and awareness-raising tools. Among those tools is the international cooperation initiative: “Be Part of the Mountain”.

Sara Casagrande Bacchiocchi and colleagues from the University of Bolzano and from the Universidad de Concepción in Chile described a project aiming at evaluating the impact of artificial snow on alpine grassland ecosystem in South Tyrol. The results indicate that 1) the lack of snow and snow scarcity outside the ski slope lead to soil freezing at the same amount of the artificial snow cover on the ski slope and 2) ski management practices affect grassland vegetation, but the effects in the small ski areas are more restrained compared to the medium-size ski resort.

Franziska Zemmer, from the Department of Nature and Environment of the Alpenverein Südtirol, introduced the “Freedom with Respect” (“Freiheit mit Rücksicht”) campaign for sustainable mountaineering in South Tyrol. The campaign was first launched in winter 2010 to address ski mountaineers and snow-shoe hikers. Trails and backcountry slopes may overlap with the winter habitats of sensitive species such as Tetraoninae (black grouse, rock ptarmigan, and capercaillie) or wild ungulates (red deer, roe deer, chamois, ibex).

Animal Vehicle Collision (AVC)

The session on “ANIMAL-VEHICLE COLLISION” wanted to provide an analysis of current impact of roads on wildlife species and of effective mitigation and prevention systems, with case studies from Alpine countries and from USA.

Eloisa Massobrio, from the University of Turin, exposed the AVC analysis done in the province of Turin taking into consideration the recent expansion of the road network, the rise of the vehicular traffic and the increase in the wildlife density. The spatiotemporal

analysis performed in the provincial territory allowed the identification of the temporal trends and of the critical points, where an accident is most likely to happen. This analysis highlighted the need of a continuous update of the database of wildlife-car accidents, and to understand the dynamics and the reasons behind this phenomenon, providing a starting point for developing mitigation and prevention strategies that may be efficient and effective.

Tony Clevenger, Western Transportation Institute, Montana State University(USA), described the developed conservation science for the management of transportation systems in mountain landscapes of western Canada. The region of interest, the Rocky Mountain Cordillera, in the Banff National Park in Alberta, Canada, has continental-scale implications and it is subjected to > 30k vehicles per day. Due to that, it is a critical wildlife habitat where the ecological connection has always been kept intact and secured through the different phases of development of the Trans-Canada Highway from the early 80s. The presentation by Dr Clevenger described the different phases of wildlife corridors protection and the strategies applied to restore movement-connected populations, meanwhile reducing roadkill and human injuries.

Marion Guitteny, from ASTERS, described the current management strategies implemented in the Mont Blanc Region in order to improve local and transnational ecological connectivity and reduce the increasing numbers of roadkill (activity in the framework of the ASP ALPBIONET2030 Project). Local stakeholders were engaged in the participatory approach ruled by ASTERS to discuss about roadkill and, therefore, about ecological connectivity. This kind of approach has resulted in a win-win result, for local stakeholders, environmental associations, road managers, hunters and local administrators. A map of critical points for roadkill and ecological connectivity has been drawn, with the intention to define the most appropriate and feasible actions to be put in place.

Daniele De Angelis, from the University of Rome “La Sapienza”, and collaborators, showed the integrated modelling approach utilized in Croatia to identify and subsequently secure the seasonal corridors for the brown bear. Their modelling approach was based on tagging animals as “sensors” of environmental change, understand animal space use patterns to monitor ecological processes and guide conservation and management actions.

The brown bear analysis took into account its movements in relations to ecological and human factors, past home ranges and accidents with vehicular traffic. All these information allowed the modelling of connectivity between patches of seasonal habitat, identifying potentially suitable habitat patches, estimating landscape permeability and modelling potential connections between habitat patches. Their approach might reveal areas where improvement of mitigation measures aimed at reducing animal-vehicle collisions are more urgent

Stakeholder Engagement

The session on “STAKEHOLDER ENGAGEMENT” wanted to provide an overview of successful participatory approach cases in the Alpine countries to promote sustainable and community-based tourism, the involvement of stakeholders into EU projects aimed at the enhancement of human-wildlife coexistence and the fundamental role of local cooperatives to promote connectivity measures.

Stefano Santi, Director of the Prealpi Giulie Regional Park, talked about the experience done in the ASP ALPBIONET 2030 project aimed at the involvement (giving voice) to local and regional stakeholders in the decisional process to know better and deepen some of the topics and problems that characterize the area. In the frame of the project AlpBioNet2030 a specific participatory process has been activated in order to probe and deepen main issues concerning the relationship between human and nature, especially zootechnical activities and large carnivores, in the Park and surroundings. The development of a conflict and of a transhumance map where the first tools to increase knowledge, improve coexistence and to raise awareness among stakeholders and decision makers.

Daniele Piazza, of CIPRA Italia, described the project RESICETS (Environmental resilience of recreational activities in the Ossola Protected Areas through the European Charter for Sustainable Tourism). The project aimed at analyzing the impacts of recreational activities on habitats, species and local environment through an integrated strategy relying on the participation of stakeholders involved in the local tourism supply chain (including the users). The project activities allowed the development of a common vision based on building a local community based on a common vision of sustainability, becoming part of an alpine-wide community speaking with one voice, enhance the role of the Natura 2000 Network in uniting, communicating, informing and sharing tools and knowledge. RESICETS builds on existing experiences thanks to WeWild (ALPARC) and points at moving from projects to long-lasting partnerships and strategies.

Carlo Maiolini, of the MUSE Trento, exposed the involvement of stakeholders during the LIFE WOLFALPS project. MUSE was the leading partner for the communication about the implementation of coordinated wolf conservation actions in core areas and beyond. Stakeholders’ involvement was necessary because of the threats due to potential conflicts with livestock husbandry, hunters and the society in general terms. Communication through dialogue platforms was the main tool used to inform local people about the project, the wolf and the measure for securing a harmonious coexistence with the human society. The main aim was communicating the natural return of the wolf in the Alps (reasons, implications, problems, solutions, opportunities) in a scientific, transparent and impartial way using calm tones.

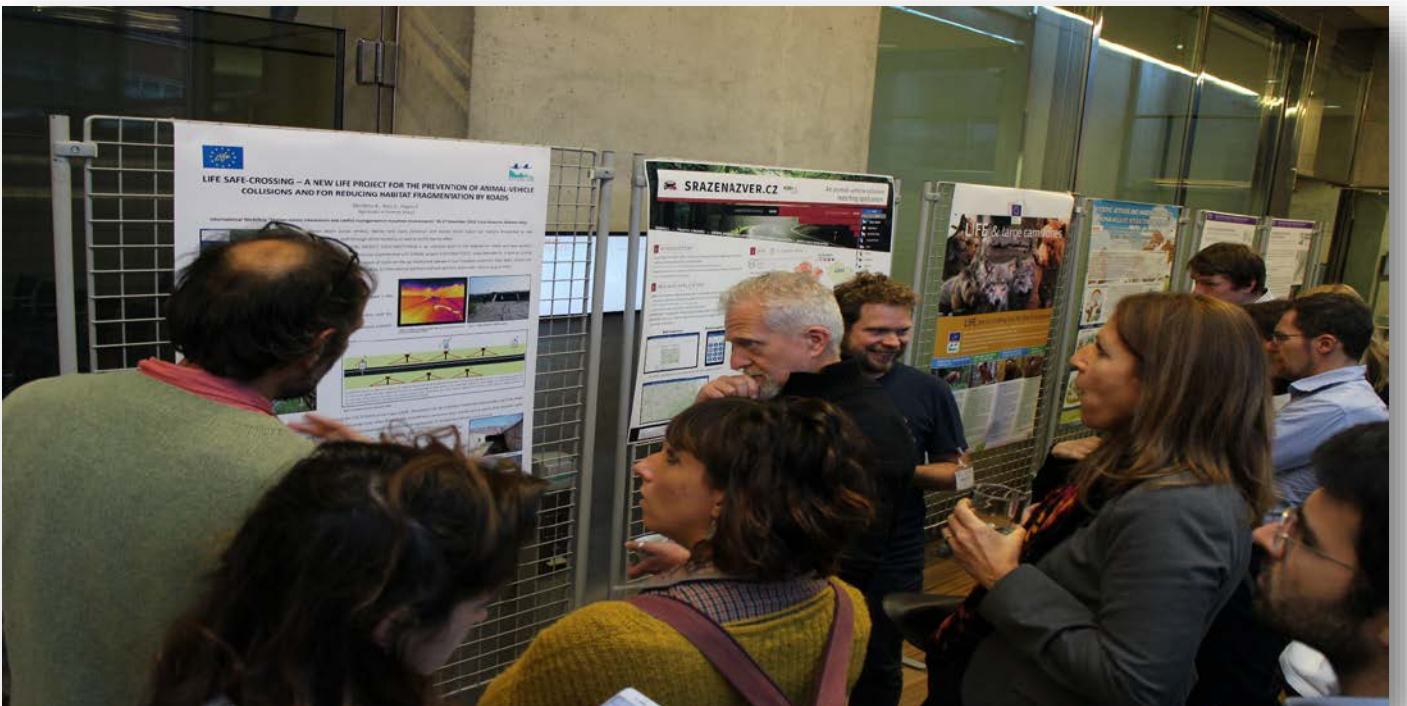
Marie Kaerlein, of Landcare Germany, talked about the landcare-cooperative stakeholder engagement and implementation of connectivity measures. The specific role of Landcare Association, in this regards, is the involvement of all partners from the beginning, the understanding of stakeholders’ perspectives, the respect for local knowledge and the return of explanations in easy words.

PICTURES

Plenary



Poster session



Parallel open sessions



Plenary open session



Key note speech (F. Madden)



Parallel session



Conclusions

Conflicts are an essential part of our life, everyday (or almost), we are faced by new issues that require our attention and that impose us (sometimes) to improvise and find a rapid solution. Conflicts create challenges and are necessary clashes to re-invent ourselves and, therefore, the society. After a conflict, we are changed, and we are able to find innovative solutions to old or to new problems.

Human-nature conflicts exist from the beginning of humankind. The challenges of human beings in regards of nature has sustained our evolution, giving us the opportunity to transform a crisis in concrete benefits.

Humans and nature both change with time, and both express new needs to improve their own survival and wellness. The occupation of the territory changes with time, due to changes in needs of the human society, providing, or removing, spaces to the environment.

The relationship between humans and nature is dynamic and has to be continuously monitored through dedicated research, in order to be able to adapt to the changing conditions (first of all climate change, but also new development plans) and find new equilibria, avoiding the raising of new conflicts.

The Work Package 5 of the ALPBIONET2030 project aims at providing a concrete tool for collecting data, analyzing, discussing and intervene to transform what is perceived as a crisis in a socioeconomic and environmental opportunity for any territory.

The Workshop *“Human-Nature Interactions and conflict management in mountain environment”* wanted to be an opportunity, in the framework of the ALPBIONET2030 project, to discuss with alpine and international experts the topics taken into account during the activities of the Work Package 5, *“Mediation in Human-Nature Conflicts”*, led by Eurac research.

During the previous two years of project activities, the work of WPT5 has focused on the collection of conflict cases from the project’s Working Regions and on the analysis of social responses to the presence of large carnivores and of human-wildlife interactions in each area of interest.

To perform a comprehensive identification of the main Alpine human-nature conflict cases, Eurac has collected case studies from all the Alpine area and on successful experiences of conflict resolution and coexistence increase. In order to reach local stakeholder in the most appropriate way, Eurac has organized a series of meetings and workshops in the project’s working regions, trying to create a favorable environment for the free expression of the stakeholders about the topics discussed, and providing a neutral ear listening and collecting their views, experiences, thoughts and suggestions.

Eurac has involved not only economically interested people (e.g. hunters, livestock breeders, farmers, tourism operators, decision makers) through qualitative interviews, surveys and workshops, but also local high-school students. High school students have been a target group in a survey aimed at knowing their current knowledge and attitude towards wildlife conflicts and potential coexistence. High school student are an important target of our work in a vision of future managers of these kind of conflicts, taking into account the current wildlife presence, expansion and the human-related development processes in act on the Alpine territory.

The workshop has been a success in terms of participation, level of experiences presented, discussions engaged and new cooperation established, in the Alps and with the USA.

This activity has given the opportunity to reinforce the network of interdisciplinary work on human-nature conflicts and to improve the current work on human-wildlife coexistence.