

Knowledge Transfer for the Coadaptation of Humans and Wolves in Alpine Regions
Learning through Experience

Start of the Project
End of Project

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1 Introduction

"No animal is as close to the fears and longings of humans as the wolf", could be read in the description of the exhibition "The wolf is here: a human exhibition", at the Alpine Museum in Bern and the National Park Centre in Zerne in 2019/20. This does not necessarily mean that we understand wolves particularly well. What it does mean, however, is that as they return and spread throughout the Alpine regions, we are forced to rethink our relationship with nature. We must do this beyond regional, national and professional boundaries by keeping open the debate on underlying values. Both wolves and humans are highly adaptive beings - how can they exist next to each other and still maintain the necessary distance?

The return of large carnivores is increasingly causing the fronts to harden between different groups of stakeholders. Among the large carnivores that have (re)settled in the Alps, the wolf is the most widespread and the most widely debated animal. Wolves are synanthropic animals and cross boundaries - physical as well as intangible ones – regularly. Thus, they have been accompanying and influencing social and cultural processes since time immemorial. The wolf provokes reflection about boundaries: about the concrete demarcation of grazing livestock by fencing it as well as about the unclear, elusive boundaries between nature/wilderness and culture/civilisation. On the one hand, the wolf makes us consolidate, establish and bureaucratise certain boundaries (e.g. loss and shooting figures, distances to human settlements, rates of remuneration for damages). On the other hand, human borders become permeable, obsolete or blurred by the wolf (national/regional borders, borders between private and public interests, between acceptance and rejection, between nature and culture) (see Frank E., Heinzer N., 2019).

The wolf is protected by several international agreements like the Bern Convention and the Fauna-Flora-Habitat Directive of the European Union or the Convention on International Trade in Endangered Species of the Wild Fauna and Flora (CITES). He belongs to an animal species of common interest and national laws have been adapted in order to integrate this protection status into national law in every country in the EU and in Switzerland. This status has been contested again and again and leads to heated debates especially in countries where the wolf has shown almost no appearances in recent decades. At the same time, its protection status is confirmed repeatedly, either by the European Union¹, the Berne Convention² but also based on national and federal laws³. As it seems, there is no near prospect of changing these laws, hence adapting to practices of sharing space and landscape with this animal is a constructive solution and a logical step. As the following report shows, for this we have to deal with our own emotions, fears and conflicting notions of nature that underlie the inherent human fear - and fascination - of the wolf.

2 Intentions and Objectives of the Project

In this project, CIPRA is taking on the task to collect, process, make available and disseminate knowledge about the coadaptation of humans and wolves throughout the Alps. Coadaptation refers to mutual processes of adaptation that inevitably take place on both sides. Wolves develop strategies to live in a nature dominated by humans. Humans, for their part, develop strategies to maintain their cultural and economic practices and to make them profitable (alpine farming and pastoralism, breeding, tourism, forestry etc.) even after the wolves have returned to the Alpine region. The development and implementation of such adaptation strategies entail drastic changes for parts of the alpine society, which

¹ "Wolf remains protected by EU Parliament" (<https://wilderness-society.org/wolf-remains-protected-by-eu-parliament/>); Confirmation of the protection status of the wolf by the European Commissioner for the Environment addressed at the EU delegates of Tyrol (A) and South Tyrol (I) (<https://www.tt.com/artikel/30747399/eu-will-am-strengen-schutzstatus-des-wolfes-nicht-ruetteln>)

² Switzerland's application to the Standing Committee of the Bern Convention for the downgrading of the protected status of the wolf is rejected. See KORA Report 2020, p. 31.

³ Annulment of the wolf shooting order by the Salzburg Regional Administrative Court (<https://tirol.gruene.at/natur-und-umwelt/schutzstatus-des-wolfs-tiroler-gruene-sehen-klare-entscheidung-des-landesverwaltungsgerichts>);

leads to fears and conflicts. This project provides a synopsis of the developments regarding human adaptation strategies to the return and spread of the wolf in the Alpine region from different perspectives.

The developments in the alpine countries are diverse. Partly this is due to the spreading of the wolf, partly to cultural, social and political conditions. Nevertheless, the challenges are usually similar, as well as the reactions and the measures undertaken. This offers a wide cross-border "learning field" in which countries and regions can learn from and support each other. There is no necessary need to make the same mistakes multiple times and successful measures - adapted to local conditions - can be adopted. The objective here is to create an overview of coadaptation activities of humans to the wolves' presence in the alpine area in recent years. For this purpose, 35 interviews were conducted with people from Austria, Switzerland, Italy, France, Switzerland and Slovenia. We wanted to know what has worked and why but also what measures have failed and for what reasons. Insights and findings were collected on how these activities have developed over the last 10 - 20 years (depending on the occurrence and spreading of wolves): What are the main concerns today? What are the most important findings and experiences of the last years and decades? Where is the journey heading and which - social, economic, political and ecological - challenges will we have to tackle more intensively in the future? Where are the "gaps" that have perhaps received too little attention in some places up to now? The interview questions were aimed at both the technical level that is about herd protection and monitoring and the developments, successes and shortcomings in these areas. They also refer to cultural and social developments in coadaptation and possible changes in attitudes of different groups. In addition, the political level was addressed and the extent to which political measures and rules (e.g. on subsidies and compensation) have changed and what they have achieved is examined. Communication about coexistence with large carnivores, how it can succeed and what should be avoided, is also included.

Furthermore, another focus has been put on the profession of shepherds in the alpine regions as this group has a special role in coadaptation processes with large carnivores. They are very exposed when it comes to practical dealings with wolves on alpine pastures and at the same time, they represent a very small, diverse, highly specialized and socially marginalized professional group in alpine society. Hence, the intention of this project also was to examine the extent to which a cross-border organisation for shepherds in the Alps would be helpful and feasible. The target group in this case was exclusively shepherds from the four countries Italy, Switzerland, Austria and France. Although everyone has a need for exchange and learning opportunities that go beyond regional or national borders - as this report will show -, first and foremost it is shepherds and herders who have to deal very directly with coadaptation issues. The challenges of herding and grazing management on alpine pastures increase drastically in amount and complexity with the occurrence of wolf populations. New (and/or very old) shepherding techniques are required, as well as refined and active communication with different stakeholders (e.g. tourists) and increased knowledge regarding animal behaviour and husbandry. Furthermore, there are very few organised interest groups for shepherds in the alpine countries. The results of this additional study form the second part of this final report. In addition, they are a fundamental component for the development of CIPRA's follow-up project in which, among other things, the support of shepherds in the Alps is a central objective.

Generally, the results and insights offered by this report are a collection of recommendations, instructions, "how to's" and "how not to's" in the context of coadaptation of humans to the return of wolves in the alpine regions. It offers ideas and insights from six different countries and can be a helpful source of knowledge for (regional and national) administrations in the Alpine space, for technical services related to the issue of coadaptation, for shepherds, agricultural colleges, journalists and the public.

All these target groups find interesting insights, especially those who have no deeper knowledge on the return of the wolves and the resulting challenges for agriculture/pastoralism, tourism, politics and science. The report gives a general overview of the discursive state of the art, not from a scientific point of view, but from the point of view of different practitioners and people in administration, as well as scientists, with long and different experiences on the topic of "coadaptation". As these people come from all alpine countries it also gives some insights on how the topic is discussed and biased within the different countries.

As mentioned above, this report also lays the foundation for an implementation project done by CIPRA International together with different partners. It is issued as the result of a preparatory project and based on the here presented findings the implementation project will be set up in order to support the transfer of certain coadaptation efforts between countries and regions.

3 Methodology

3.1 Field of Investigation 1: Coadaptation Strategies

3.1.1 Qualitative Interviews

As preparatory work, several exploratory interviews were conducted with representatives from nature conservation organisations, administration, science (nature and social sciences) and (international) projects dealing with similar issues. The project idea was also presented and underwent a thorough examination at the meeting of the WISO working group of the Alpine Convention⁴ in October 2019 where precious insights for the further design of the project were gained. Moreover, CIPRA International took part in an international conference on herd protection in the context of the EU Large Carnivores project⁵ in January 2020, where important networking took place.

Based on the preparatory work, qualitative interviews in professional fields such as science, (regional and national) administration, technical services⁶ and with practitioners (pastoralism, breeding and animal husbandry, wildlife management as well as nature conservation) were conducted in the period between May until December 2020. These interviews were analysed in order to derive recommendations and learnings for countries and regions as an aid to deal with the challenges of coadaptation of humans and wolves in the alpine region. Furthermore, fields of action for an implementation project were defined in order to further support and advance coadaptation efforts in the Alps (see Chapter 5). The interviews were conducted in all alpine countries (but Liechtenstein) with a focus on people who have long-standing experiences and forms of contact with the wolf.

In selecting the interview partners for the analysis, CIPRA used its existing network on the one hand and the networks of the interviewed persons on the other. Each interviewee was asked to suggest possible further candidates. The advantage of this was that contacts could be established easily, quickly, trustworthy and it was easier to find people who are difficult to reach due to their profession.

All interviewees are anonymised, as the topic of this report is a very controversial one. It is regularly instrumentalized politically, by the media and various interest groups and stimulates very heated discussions in all kinds of forums. For some interviewees this was even a precondition to take part. In order to give some insights on the composition of the group of interviewees we added diagrams that show from where the interviewed persons came professionally and geographically (see below). **At this point, we want to thank all interviewees for their time and their openness to answer our questions. Without their precious contribution, this project and this report would never have been accomplished!**

In a collaborative effort of CIPRA France, CIPRA Germany, CIPRA Italy and CIPRA International a questionnaire was composed in order to conduct a qualitative survey with a representational outcome. The questionnaire with 11 questions (see Annex) was designed in order to stimulate the interviewee to reflect on his/her own experiences, thoughts and learnings with regard to coadaptation strategies in his/her region and field of expertise. Most of the interviews were conducted via telephone or online communication platforms mostly due to the Covid-19-situation and only a few interviews were conducted

⁴ <https://www.alpconv.org/en/home/organisation/thematic-working-bodies/detail/large-carnivores-wild-ungulates-and-society-working-group-wiso/>

⁵ <https://www.eurolargecarnivores.eu/en/>

⁶ Technical services in this case refer to services such as counseling, communications and networking in the field of coadaptation of humans and wolves without being strictly and purely scientific, agricultural or administrative. This can refer to institutions such as associations and (outsourced) governmental institutions.

on site when it was possible to talk outside. The interviewers took notes that were written down in a comprehensive form. Afterwards these were sent back to the interviewed persons in order to avoid misunderstandings and to offer the possibility to make corrections and amendments.

31 interviews were conducted in this field of investigation in the period from May to December 2020. Thereafter the evaluation and preparation of the report took place until May 2021. All interviews were conducted in the mother tongue of the interviewees by members of CIPRA France, CIPRA Italia, CIPRA Germany and CIPRA International.

3.1.2 Interviewed Persons according to Country

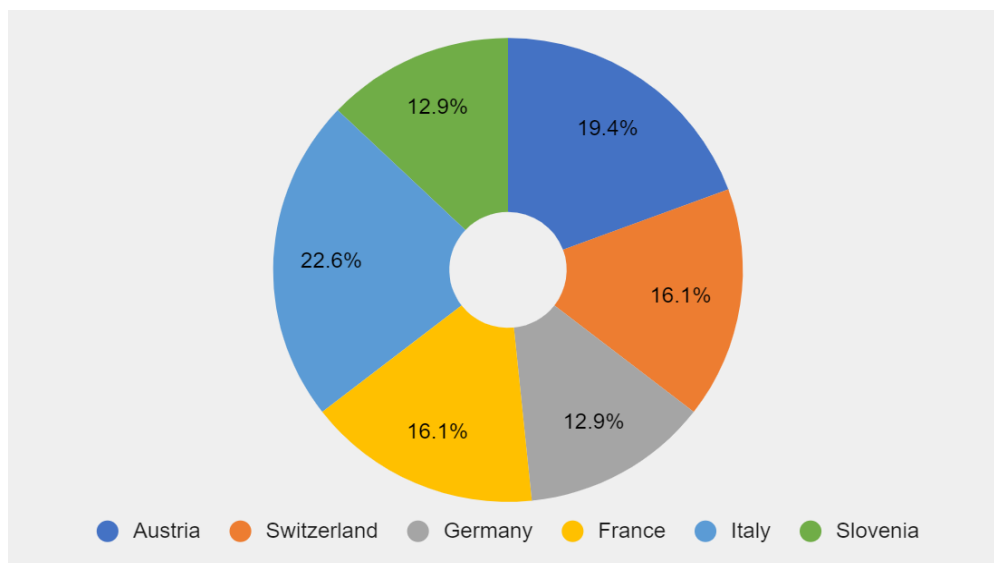


Fig. 1: Interviewed persons according to their country of residence

3.1.3 Interviewed Persons according to Profession

Some of the interviewed persons had double roles, e.g. they were shepherd and environmental expert or scientist and employed by an organization providing technical services or by an administration. In this case, they were then categorized according to their official role while exercising their profession, e.g. the head of a counselling and coordinating institution in the context of coadaptation who, at the same time, is a scientist, was categorized as “technical service” or a biologist working for a regional administration was labelled “administration”. Labelled as environmental experts were park rangers and gamekeepers as well as people who work in environmental organisations. Some of the interviewees were shepherds and breeders at the same time and it was not possible to meaningfully disentangle these groups as often they overlapped and practised both professions. Furthermore, this group contains representatives of farmers and breeders associations.

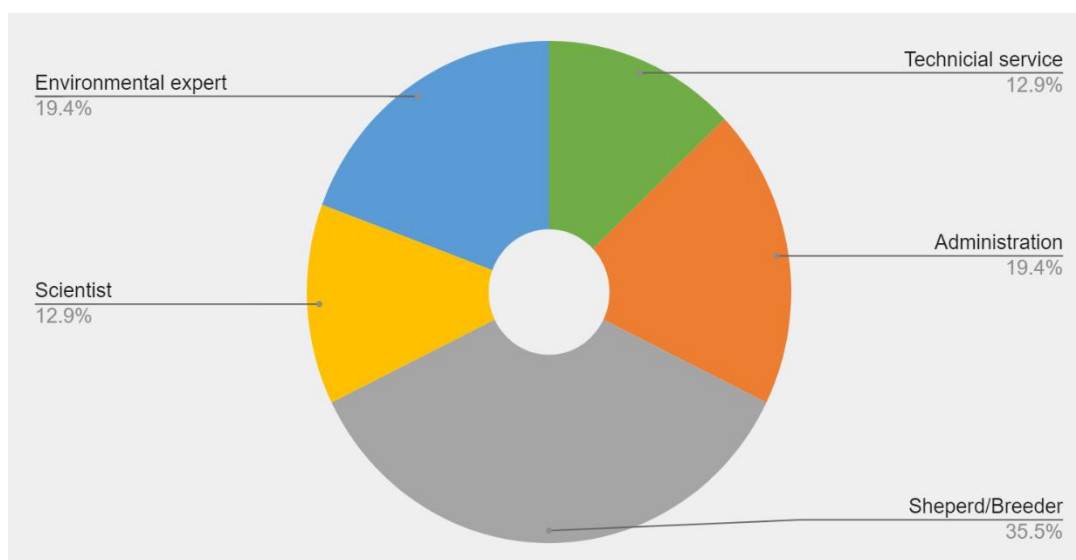


Fig. 2: Interviewed persons according to their field of profession

3.2 Field of Investigation 2: Cross-border organisation for shepherds

In the course of the project, a second survey was conducted whereas here the sole target group consisted of shepherds⁷. The survey was designed and performed by Andrea Sulig and Esther Haesen, who are shepherds themselves, and were commissioned by CIPRA International in November 2020. The survey was submitted in March 2021 and collaboratively finalized in April 2021.

The countries France, Switzerland, Austria and Italy were selected for the interviews. Four interview partners were interviewed per country, so that a total of sixteen interviews were conducted. The search for suitable interview partners was based on contacts of CIPRA International and the investigators. In Italy, the focus was on the region of South Tyrol. In France, shepherds from the alpine region and the Jura Mountains were interviewed. Furthermore, only shepherds from France who are members of existing shepherd organisations were contacted. In all countries, primarily active shepherds who herd sheep on alpine pastures in summer were interviewed. So far, it is mainly they who are affected by attacks by large predators on livestock. In addition, sheep farmers have hardly had a voice in the wider alpine society so far. This may be partly due to the low economic importance of sheep in relation to cattle but also because shepherds are hardly structurally united among themselves. In Austria, South Tyrol and Switzerland, however, also a cattle and a cow herder were interviewed. In addition, in France, Switzerland and Austria, a counsellor (e.g. from technical services) was interviewed in each case in order to gain a broader overview of the situation of the herders, only one of which did never work as a shepherd himself (Austria). The interviews were conducted in person, by telephone or online. After all interviews had been conducted, the answers of the interview partners were compared with each other by country. The focus was on commonalities and differences by country.

The main task of this study was an examination of the structural and content-related requirements that a transnational platform or organisation for shepherds would have to meet and the following questions were answered:

- What can such an organisation do and what not?
- What can the organisational structure look like?
- Who are the target groups?
- What is the potential of such an organisation?
- What are the challenges?

⁷ For easier reading, please note that when the term “shepherd” is used it is intended to include shepherds and shepherdesses.

4 Results

4.1 Results of Field of Investigation 1: Coadaptation Strategies

The first step in the analysis of the interviews was to look at similarities and differences in the countries themselves. It has to be mentioned that due to the complexity of the topic itself but also due to the heterogeneous composition of the interviewees with regard to their profession and position in society, the results offered a very broad range of information and a high degree of heterogeneity. Nevertheless, in the following listing of results the statements strongest emphasized, repeated and stressed are mentioned in a summarized form. The structure of the listing follows the structure of the questionnaire of which seven guiding questions were derived for the analysis of the interviews. The first step of the analysis was done with the help of an open source qualitative data analysis tool⁸. Thereafter, the interim results were processed, compared and summarized further in order to structure the insights by countries and, as a last step, to restructure them again by the seven guiding questions. This way it was possible to include insights from different countries in order to compare them and see where the differences and similarities lie. Additionally, via the clustering of answers aligned by guiding questions, it offers cross-territorial or cross-national insights alongside the guiding questions that show which topics and issues in the context of coadaptation in the Alps are stressed and require the most attention regardless of national or regional allegiance.

4.1.1 Results and Findings by Country

4.1.1.1 Austria

Facts about the Wolf Population in Austria

Between 2009 and 2015, up to seven wolves per year have been detected in Austria. The origin varied, they came from other alpine regions, the Balkans and the Carpathians. The first pack formed in 2016 in Allentsteig (Lower Austria) (see Rauer, 2019 p. 46). In 2020, there were three known packs in Austria in the Lower Austria region and bordering Upper Austria, which is outside the alpine region. Only in the Allentsteig pack could 2020 pups be found. The first evidence of pups in this pack was found in 2016, which means that for the first time in over 100 years there were wolf offspring in Austria. The density of cloven-hoofed game is very high in this area and the pack is tolerated locally. Pups were born in this pack in the following year 2017 as well as in 2018. In total, 22 individuals were genetically detected in Austria last year. In addition, there were 12 pups and young wolves, as well as six unidentified individuals. In total, 40 wolves were known in Austria in 2020. This means a slight decrease of 17 percent from 2019 with 48 individuals.⁹ However, also in Austria an exponential growth is probable looking at the developments in neighbouring countries.

⁸ <https://www.taguette.org/>

⁹ <https://beutegreifer.at/categories/verbreitung-4e335cca-4338-4ad3-88e9-f5c25de91f88> (last online access: 10th March 21).

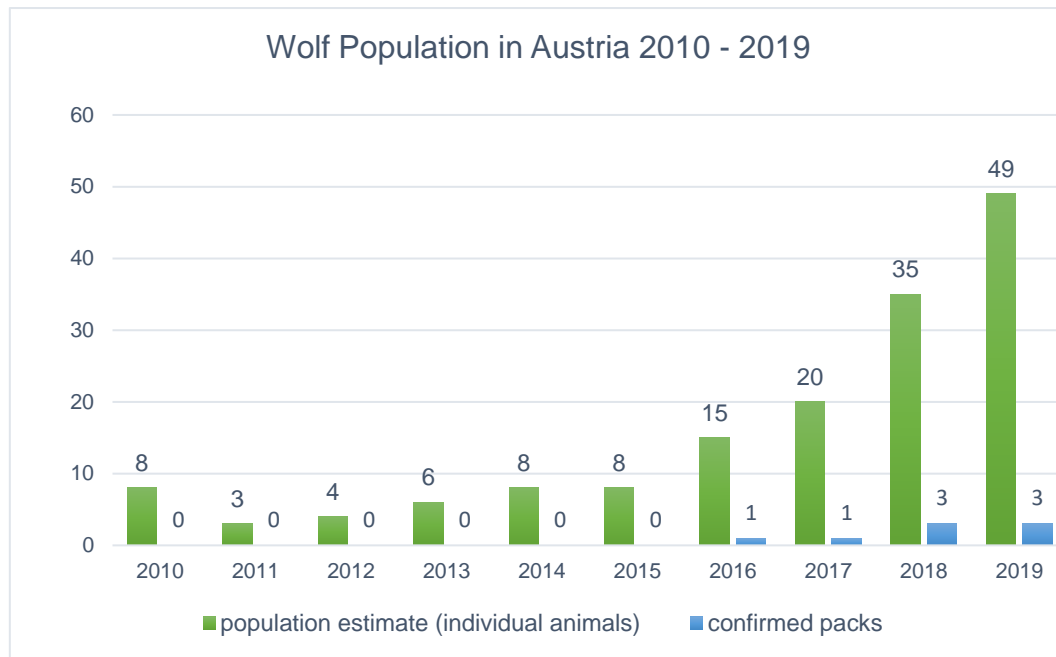


Fig. 3: Development of the wolf population in Austria from 2010 - 2019. WISO Report 2020, p. 9.

Synthesis of Statements from the Austrian Interviews

1. *How or to what extent has the process of coexistence (the coadaptation strategy) with the wolf changed in the last years | decades | since its return? What are the political, social and technical aspects of these changes?*
 - On the political level, according to the perception of the interviewees, both polarisation and the populist instrumentalisation of the issue have increased. In addition, there is a strong tendency towards clientele politics.
 - On a practical-technical level regarding adaptation measures (herd protection and prevention measures), there are very big differences in the federal provinces in Austria:
 - In the province of Salzburg, for example, a 5-point plan was implemented with wolf advisors, herd protection, compensation payments, kill assessment and a series of lectures in the region. In Lower Austria, the "Austrian Centre for Bear, Wolf and Lynx" was founded, which takes on tasks that cross administrative borders and aims to ensure the low-conflict coexistence of land users and predators. The association is also involved in international projects as well as in public relations and monitoring activities¹⁰. In five of the nine federal provinces (Burgenland, Carinthia, Upper Austria, Styria and Vienna) no measures have been taken yet.
 - In Tyrol, eight "emergency kits" with mobile electric fences were made available, which are to be used in case of wolf attacks or if a wolf is in the vicinity. In summer 2020, the Tyrolean provincial government also decided that in 2020 and 2021 herd protection will be funded with € 500,000 each, and in 2019 a feasibility study on the implementation of herd protection was carried out on four Tyrolean alpine pastures (see Mettler and Moser, 2020).
 - In addition, "wolf intervention units" are to be deployed at three locations in Austria, consisting of specially trained people who will provide assistance to the affected farmers for several days after a kill. The team in Salzburg already exists, in Tyrol and Lower Austria it is still being negotiated.

¹⁰ https://www.herdenschutz.at/das_oesterreichzentrum.htm

- In the westernmost province of Vorarlberg, the purchase of electric fences is financially supported (see WISO Report 2020, 14 p.).
- In addition, there are pioneers throughout Austria who implement individual protection and prevention measures such as fences or targeted pasture management.

The picture here is very heterogeneous and fragmented, as there was no national coordinating body until the foundation of the Austrian Centre for Bear, Wolf and Lynx (ÖBWL) in February 2019. However, the competences still lie with the individual federal provinces and the ÖBWL, which is organised as an association, can accordingly only contribute expertise, information and recommendations.

2. *What are the most pressing concerns and challenges regarding co-adaptation with the wolf in your country | region?*

- Ignorance of political actors and populism are the main problems. Joint political commitment would be needed.
- The lack of fact-based policy and financial and administrative support for farmers (e.g. EU funds for herd protection would need to be collected, legal adjustments regarding guard dogs would need to be made).
- The existing need for a broad approach to herd protection and related challenges. Selective improvements are not enough.
- The framework conditions must be improved: coordinated support for conservation measures, professional communication and public relations work on the topic, as well as active monitoring are needed.

3. *What are the most important experiences ("learnings") you have made? What can other countries | regions learn from you?*

- Overcoming populist agitation and the black and white perspective in politics are necessary as well as meeting at eye level.
- The various sectors (agriculture, tourism, forestry) must work together to ensure that prevention measures are effective.
- Transparency and fact-based communication are central

4. *Where are the "gaps" in this learning and experience process? Where has too little attention been paid so far?*

- More education and communication on the topic is needed to counteract the hysteria. Strong public relations work would be necessary, also in the direction of the population not directly affected.
- The wolf "puts its paw" on deeper conflicts, e.g. in agriculture and forestry and so surrogate conflicts can be carried out via the wolf. Very often the conflicts actually are about issues such as the overstocking of game and the protection of forests, succession problems in agriculture and the challenges of part time farming, alpine pasture management practices, subsidy policies in agriculture, etc.
- There is a need for communication between farmers and non-farmers. There is a lack of understanding for each other.

5. *What mistakes could/should be avoided?*

- The political instrumentalization and exploitation of the issue
- Not taking the issue seriously should be avoided, because it prevents active implementation of solutions such as herd protection or compensation payments.
- Populism and emotionalisation instead of factual discourse should be avoided

6. *What could and should a fruitful knowledge transfer between people on this topic look like? What best practice examples do you know?*

- Active cooperation and support in finding solutions is necessary; also that we adapt and implement best practice examples from other countries, e.g. Switzerland and France
- People from all sectors - agriculture, forestry, hunting, tourism, nature conservation, administration, politics, media - should come together, with peer-to-peer exchange working best
- Politicians in particular should meet more often with other stakeholders on the topic

7. *What are the "crucial points" that need to be worked on now? What do we have to pay special attention to now?*

- The structural agricultural problems must be addressed and discussed (part-time farming, succession problems, market prices, future role of alpine farming, etc.). These problems also exist without large carnivores, but are exacerbated by them.
- Communication needs to be strengthened and professionalised, both towards the public and between politicians and experts. This interface with decision-makers does not work well.
- Compensation payments: agriculture must engage in herd protection, which is supported by the EU. National governments must become active here.
- Herd protection - this must be implemented, simultaneously with active, professional, coordinated monitoring.

Comments and summary

The appearance of the wolf is relatively new in Austria, so the uproar and populism that accompanies it is based on a lack of experience and the persistence in the "denial phase", as one interview partner called the adherence to the belief that 'wolf-free Alps' were an achievable goal. On the one hand, the responsibility of the individual federal provinces and the reluctance of the state authorities create a great heterogeneity in terms of protective measures and communication. On the other hand, there is also a great deal of room for interest groups to communicate their own opinions and attitudes on the topic more or less aggressively through the respective channels.

In Austria, moreover, the herding profession - despite the idealistic importance of alpine farming - suffers from a lack of social prestige as well as sufficient training and earning opportunities. Accordingly, there are few professional, well-trained herders. It also has to be mentioned here that traditionally sheep farming does not have the same importance as cattle farming. In 2020, according to "Statistics Austria", there were 394.000 sheep in Austria compared to 1.85 million cattle.¹¹ Additionally, only approximately

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https://www.statistik.at/web_de/statistiken/wirtschaft/land_und_forstwirtschaft/viehbestand_tierische_erzeugung/viehbestand/index.html#index3 (online access 10th March 21)

270.000 pieces of cattle were kept on alpine pastures during the summer months.¹² Small structured farming in the alpine areas in Austria is confronted with many challenges like succession problems, part time farming and low market prices for agricultural products. The return of the wolf exacerbates these problems, as has been mentioned in the interviews. At the same time, alpine farming has a very long tradition, is engraved in the Austrian identity, and plays a major role in tourism-related marketing and tourism industry. Since the return of the wolf, both sectors are even more challenged to find solutions and they should urgently do so together (herd protection, fences, dogs, communication, etc.).

4.1.1.2 Switzerland

Facts about the Wolf Population in Switzerland

In February 1996, the first documented sighting of a wolf in the canton of Valais took place. In the following years single male wolves migrated to the cantons of Valais, Ticino and Grisons repeatedly, whereas the first female wolf was confirmed just in 2002. The first pack formed in 2012 in Grisons and reproduced successfully as 38 cubs could be detected genetically. In 2016, there were already three packs in Switzerland that produced offspring and in 2019, eight packs with 77 individual animals were identified, whereas two packs had vanished or dispersed. From 2015 on the wolf population in Switzerland began to grow quickly and the development of territorial colonisation was similar to France and Germany, although in Switzerland it took the wolves 20 years to establish packs. One reason for this could be the legal (6) and illegal (1) shootings of wolves between 1998 and 2010 in Valais along the main immigration route. Another reason might lie in the topography of the Alps with its valleys separated by high mountain ranges (see KORA report, 2020 p. 11-15).

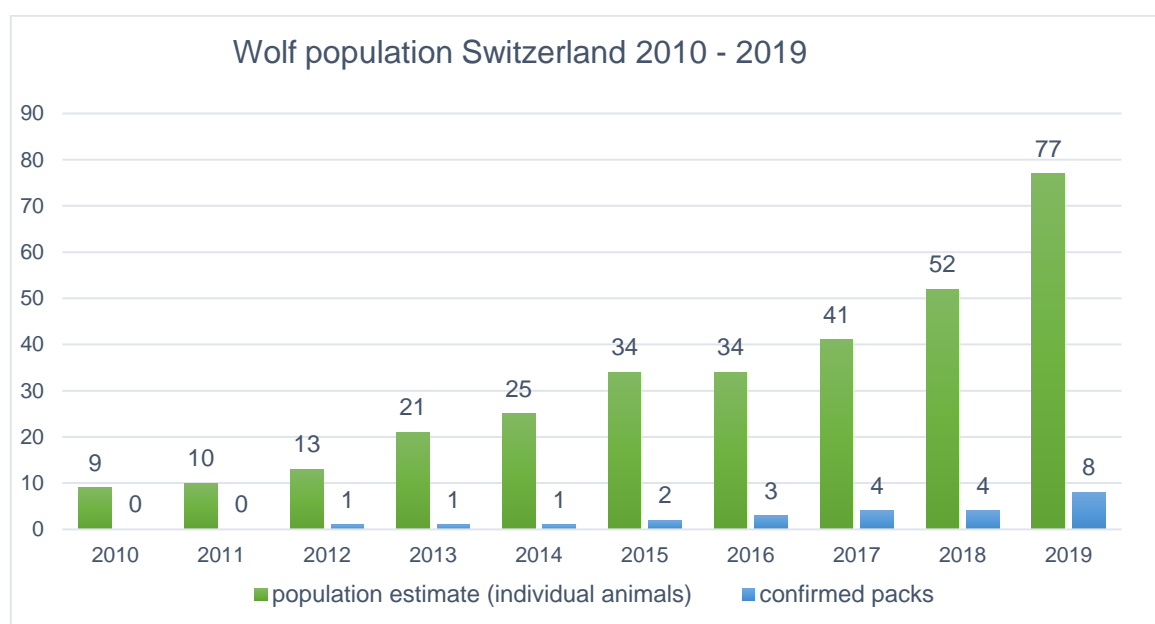


Fig. 4: Development of the wolf population in Switzerland from 2010 – 2019. WISO report 2020, p. 207.

¹² https://www.almwirtschaft.com/images/stories/neuigkeiten/2017/pdfs/Almwirtschaft_in_Zahlen.pdf (online access 10th March 21). These numbers are from 2016. The numbers probably decreased a little bit since then.

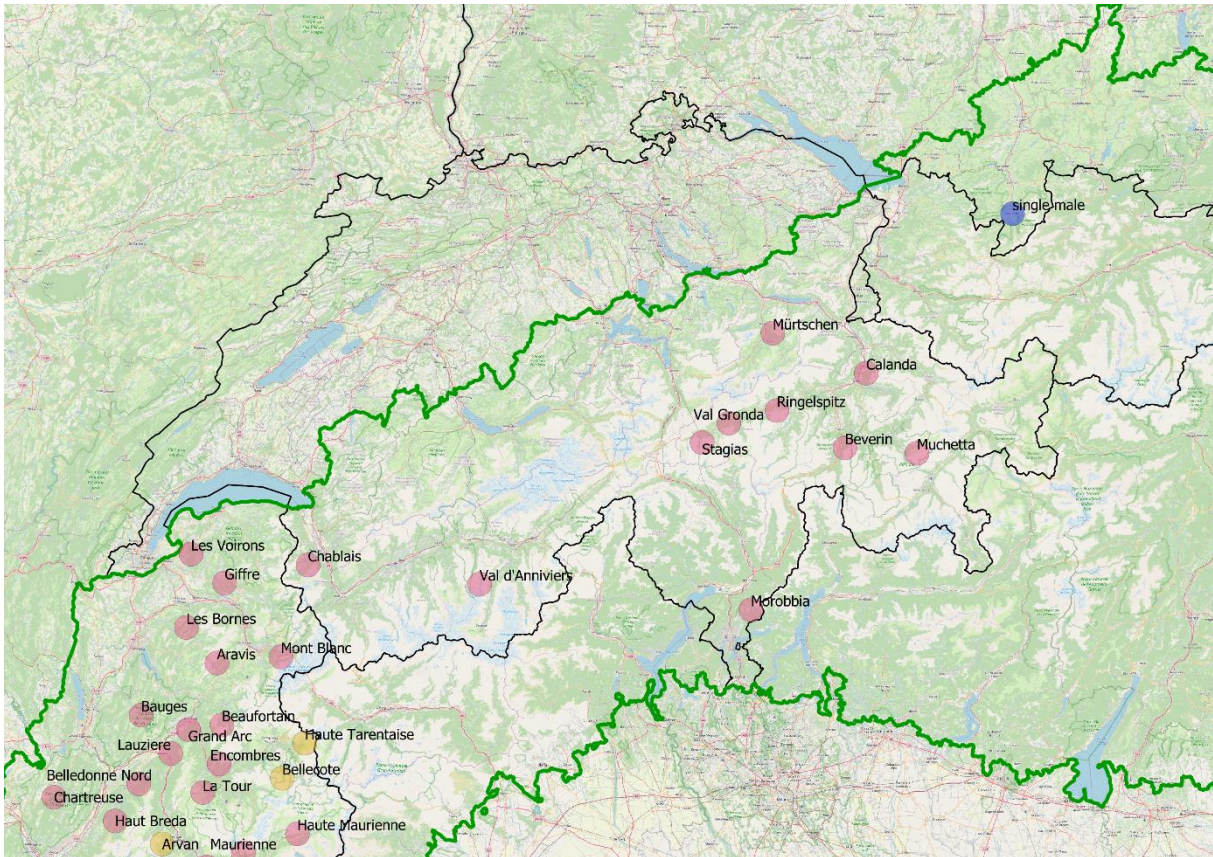


Fig. 5: Distribution of wolf packs in Switzerland in the perimeter of the Alpine Convention (green line); see Picture Credits, p. 48.

Synthesis of Statements from the Swiss Interviews

1. *How or to what extent has the process of coexistence (the coadaptation strategy) with the wolf changed in the last years | decades | since its return? What are the political, social and technical aspects of these changes?*
 - On the practical level knowledge on herd protection grew, professionalized and institutionalized. Most of the competence was bundled at AGRIDEA, the agricultural advisory centre of the cantonal agencies that fosters the exchange of knowledge and experience in practice and research in Switzerland and beyond.
 - Politically the situation became more and more heated up and polarised, although there have been efforts to stay fact based and take the legal situation and the protection status as a given starting point. In the last 10 years, over 60 motions have been submitted in parliament concerning wolves. At the same time, there has been a softening of the total protection status of the wolf that allows culling under certain circumstances and also NGOs accepted that to a certain extent.
 - Socially acceptance is growing slow and only if the number of kills go down. Acceptance is bigger if people are talked to personally and not as representatives of an organisation. Big panel discussions after the reappearance of the wolf failed spectacularly.
2. *What are the most pressing concerns and challenges regarding co-adaptation with the wolf in your country | region?*
 - Doing anti-wolf politics is easy and often becomes a tool for regional politicians

- The exponential growth of the wolf population continues until the territories are occupied. It is a big challenge to manage and regulate this development.
 - The divide of the urban and the rural population: it is important for the urban inhabitants to create awareness for the challenges the return of the wolves pose. For the rural inhabitants it would be important to stay open minded for the changing role of agriculture in society and the much needed financial support for mountain agriculture.
3. *What are the most important experiences ("learnings") you have made? What can other countries | regions learn from you?*
- To acknowledge the differentiation where herd protection is useful and where it is not possible in the mountains. This is important but difficult.
 - It needs local resources for counselling. It is necessary to train people on site because the regional differences are big. Regional solutions need regional actors to implement them, supported by the official authorities. Good examples for this are game wardens.
 - Patience is required. Changing old structures like in mountain agriculture takes time.
 - Strong political standing and coordination on the national level is helpful - you need strong authorities.
4. *Where are the "gaps" in this learning and experience process? Where too little attention has been paid so far?*
- Too little attention was paid to communication - also professionalized communication on local level. The authorities have to pay more attention to this.
 - Behaviour and biology of wolves in the alpine territory is not well documented
 - Social sciences deliver important insights concerning coadaptation but have been neglected so far. At the same time, they still fail to provide an interface for practical implementation for their insights.
5. *What mistakes could/should be avoided?*
- Politicisation of the topic is the worst thing. It is obstructive in finding solutions but it is found on all levels of politics.
 - The biggest error is to not prepare for predation - practically concerning herd protection and communication. If the authority is not prepared, other organisations take the mandate for herd protection and for communication.
 - Responsible, well managed and neutral communication by authorities and public institutions is important.
6. *What could and should a fruitful knowledge transfer between people on this topic look like? What best practice examples do you know?*
- The exchange among different groups and among regions/countries is important

- Excursions - on different levels - are very helpful. So people see and learn on site what is important. This makes the biggest impression, e.g. the real effort and expense to implement herd protection measures becomes visible. Politicians especially have to learn this.
 - All stakeholders should meet to foster mutual understanding, but it should be a relatively small, manageable body where people meet and exchange ideas on a regular basis.
7. *What are the "crucial points" that need to be worked on now? What do we have to pay special attention to now?*
- Prevention costs must be made transparent and must be increased. Compensation is paid for relatively well, prevention is not. The extra effort for prevention measures has to be taken seriously in order to make it work.
 - To find basic contact with different groups - continuously! It needs constant exchange to work.
 - Prevention also needs a regulation of wolf population

Comments and Summary

Switzerland has had a 25-years old history of coadaptation with wolves since their return and is very often used as a role model, best practice example and in an advisory role for other countries and regions. Much can be learned from the Swiss example. It has to be considered, however, that the political, social and cultural meaning of mountain farming, the most exposed farming practice when it comes to wolf predation, in Switzerland is outstandingly important. Much more subsidies are paid for supporting mountain farming than in other alpine countries, although only approximately 25 percent of all agricultural enterprises are in mountain areas.¹³ In addition, the amount of funding that flows into protection measures, counselling and monitoring cannot be reached by any other alpine country.

Another reason why Switzerland is an interesting role model is the fact that, although it is politically structured into 26 cantons with strong federal competencies, very important and strong institutions concerning prevention measures, herd protection and monitoring are organized and coordinated nationally (AGRIDEA and KORA).

Switzerland also has a special role as it is not part of the European Union and EU legislation like the Fauna-Flora-Habitat Directive do not apply. However, the wolf in Switzerland - also signatory of the Bern Convention - has a similarly high protection status as in the EU. But opposition against the wolf's presence in Switzerland is persistent and, despite 25 years of experience, important learnings and experiences made by now do not reach the public or even political debate. This was shown in an exemplary way by the statements made in the national council during the partial revision of the hunting law in 2019 (see KORA report, 2020 p. 68). And, it is also shown, by the statements made in the context of this report, where a lack of knowledge on wolves in general and on their role in nature has been mentioned repeatedly.

4.1.1.3 Liechtenstein

In Liechtenstein, no interviews were conducted due to the small size of the country and the lack of an established wolf population. There were only two confirmed sightings of individual animals in 2018 and 2020, which were migratory animals. More migrating wolves are expected in the near future, as pack formations can be observed in the immediate vicinity of the country (e.g. in the canton of Grisons/CH) (see WISO Report, 2020 p. 158).

4.1.1.4 Germany

Facts about the Wolf Population in Germany

Germany has gained a lot of experience with the return of the wolves, but mostly outside the alpine region. As in many other European countries the wolf was eradicated in the 19th century. It reappeared

¹³ <https://www.sbv-usp.ch/de/schlagworte/berglandwirtschaft/>

first in eastern Germany and the first reproduction was registered in the Lausitz region in Saxony in the year 2000. Since then the stocks are recovering continuously. But this trend is strongly concentrated on the eastern and meanwhile north-western parts of Germany. In the German Alps, there is a different reality: here only sporadic individuals have been crossing the Austrian border. However, the numbers of these visits are rising continuously and spark new discussion between various interest groups. Unlike in eastern Germany, the alpine regions have no experience with this predator. Moreover, landscape and agriculture have very different characteristics and so measures and procedures for herd protection cannot easily be adapted.¹⁴

The first migratory wolf in the German Alps appeared in 2010 in the Mangfall mountain range. Since then a rising number of individuals are registered. Today there is only one confirmed individual permanently living there. It is located in the southern part of the Oberallgäu, has been avoiding human contact and did not cause any harm to livestock in the region.¹⁵ Due to this reason, no diagram on wolf population in the German Alps is presented here.

Synthesis of Statements from the German Interviews

1. *How or to what extent has the process of coexistence (the coadaptation strategy) with the wolf changed in the last years | decades | since its return? What are the political, social and technical aspects of these changes?*
 - The topic is non-existent on a political or societal level until a wolf is verified in the region. Hence no preventive measures are taken. Political and societal debate only reacts to these sightings and gets more and more anti wolf. Especially in the Alpine region.
 - There have been a few wolf attacks in Bavaria, but very few farmers are taking measures against it. Their main concern is that the wolf must be shot and a “wolf-free zone” has to be established in the Bavarian Alps. Coexistence is rarely being considered by livestock farmers.
 - Mountain farmers complain about the rising potential for conflicts with tourists. First, the number of tourists, especially from the nearby cities, is rising continuously and second, there are changes in behavior of these tourists. They seem to be less understanding when it comes to herd protection measures limiting their free space. Together with the difficulties of keeping guard dogs, these developments make coexistence of wolves and humans in the Alps unimaginable in the opinion of many farmers.
 - Among the administration on state level (Bavaria), the return of the wolf is no longer ignored and the administration collaborates well with most of the interest groups. Awareness in the ministries has improved as well as the cooperation between the ministries.
 - In addition, the authorities set up a herd protection advisory service two years ago. There is advice for small livestock keepers (sheep and goats) and a mountain pasture advisor.
2. *What are the most pressing concerns and challenges regarding co-adaptation with the wolf in your country | region?*
 - Most interviewees agree that herd protection is the most urgent issue followed by fighting the fear through awareness raising. Scientific findings play a subordinate role regarding coadaptation.
 - Tourism is a key factor in successful coadaptation, but has been neglected so far. In the existing exchanges on the topic tourism representatives are missing. Moreover, farmers see tourists as

¹⁴ <https://www.bmu.de/themen/natur-biologische-vielfalt-arten/artenschutz/nationaler-artenschutz/der-wolf-in-deutschland/>

¹⁵ <https://www.merkur.de/bayern/wolf-bayern-inntal-647484.html>

one main obstacle in effective herd protection.

- Communication on the challenges of mountain farming in general is needed. Often (small) farmers need to transfer their needs and challenges in a better supported way as farmers associations represent mostly big farming industries.
 - Legislation regarding guard dogs is not adequate for the regular and supportive use of protection dogs, as the issue is rather new.
3. *What are the most important experiences ("learnings") you have made? What can other countries | regions learn from you?*
- In the Bavarian Alps, there are few experiences with the wolf in comparison to other alpine countries.
 - Most interviewees agree that starting prevention measures as early as possible even before wolves are present, is important. So far, however, the implementation of prevention measures always lagged behind.
 - In terms of mutual understanding, it was pointed out that the personal level is extremely important. The parties need to get to know each other as people. Productive discussions are possible with individuals, but the same people become inaccessible as soon as they act as representatives of associations.
4. *Where are the "gaps" in this learning and experience process? Where has too little attention been paid so far?*
- Scientific research on the effectiveness of herd protection measures is almost completely lacking.
 - There is no active wolf monitoring in Bavaria. All wolf reports are accidental finds that are collected and documented by the Bavarian Environmental Agency.
5. *What mistakes could/should be avoided?*
- Discussion should have been held and educational work should have been done before the arrival of the wolf, but when it was predictable that it was returning.
 - In the "false security" of the wolf being far away, politicians were tempted to make impossible promises.
 - Overall, the wolf seems to be a good topic for polarisation and therefore political campaigning. Coadaptation and constructive solutions are made extremely difficult in this situation.
6. *What could and should a fruitful knowledge transfer between people on this topic look like? What best practice examples do you know?*
- For some interviewees it seems crucial to create large exchange groups that deal with the issue as early as possible and include all interest groups.
 - Some interviewees mentioned difficult transferability of experiences across borders since every country has different conditions.
 - There is only a very limited number of positive examples that herd protection actually works.

7. *What are the "crucial points" that need to be worked on now? What do we have to pay special attention to now?*

- Many interviewees mentioned that tourism was not adequately involved in roundtables and exchanges. Because of the high density of touristic areas in the Bavarian Alps, visitors and their acceptance of herd protection measures play a crucial role.
- It was emphasised that scientific research on herd protection measures is urgently needed.
- It was explained that the wolf enhances many problems of farming in mountain areas that already exist (workload, marketing). Maybe the wolf can also be a catalyst to tackle these problems (wolf as an opportunity to reform agricultural policies).

Comments and Summary

Many farmers advocate for shooting wolves. They demand "wolf-free Alps" because herds cannot be protected properly due to alpine landscape characteristics and large numbers of tourists. (Local) Politicians follow these demands and take side with these farmers. Both groups neglect the reality that wolf-free zones are not possible since the wolf is a migratory animal and its presence is bound to prevail also in the Bavarian Alps due to rising European populations. This leads to a defensive stance towards the necessity of herd-protection measures. But recently a rising number of farmers start to step out of line and begin to prepare themselves against the "new" predator. However, positive examples for herd protection are still only to be found on a very small scale.

Problems in the context of the presence of large numbers of tourists in the Bavarian Alps and necessary herd-protection measures (guard dogs, fences, etc.) are predictable. Involving tourism representatives to the respective roundtables will probably not fully solve this problem. What is additionally needed is stronger communication efforts of tourism associations and state administration targeted at the tourists themselves. If all else fails, tourists have to be "educated" by considerable fines.

The big picture and a wider perspective on the topic seems to be missing. The return of the wolf could be a chance to re-evaluate alpine agriculture. This means, having a detailed look on the achievements of alpine agriculture and defining what is worth preserving and what is negligible. This will probably lead to new "wilderness" in a few regions but also higher efforts/payments in the rest of the cultural landscape of the Bavarian Alps.

4.1.1.5 France

Facts about the Wolf Population in France

Wolves in France disappeared in the 1930s due to hunting and deforestation and the subsequent decrease in wild ungulates. A first sighting of a wolf was made in 1987. The second sighting took place in November 1992 in the Mercantour National Park, but was not made public until May 1993 in order to preserve the safety of these two wolves from Italy. Benefiting from a strict protection status (ratification of the Bern Convention in 1990 and of the Habitats Directive in 1992), the wolf population rapidly increased to reach about thirty wolves in 2000. The number reached approximately a hundred wolves ten years later and 580 individuals in 2020. Wolves are now present in a large part of France (observed in Bretagne in 2020) but there are no packs outside the Alps and the Jura. In 2004, the first national Wolf Plan (2004-2008) introduced a derogation from the Habitats Directive and introduced the possibility of defence or hunting shots in compliance with a quota established each year.

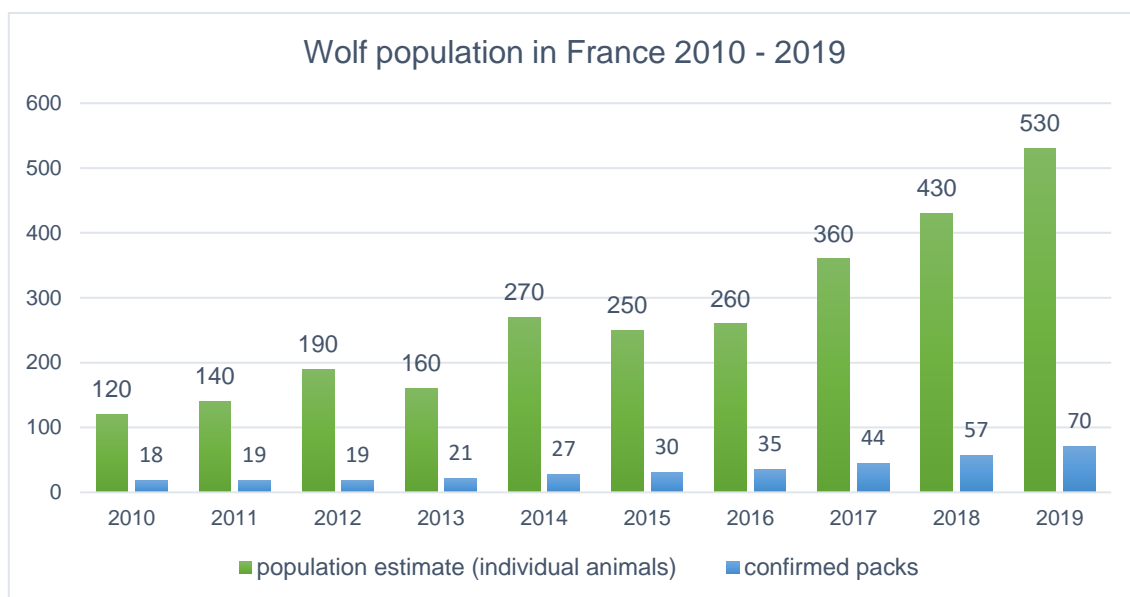


Fig. 6: Development of wolf population in France from 2010 – 2019. WISO Report 2020, p. 35.

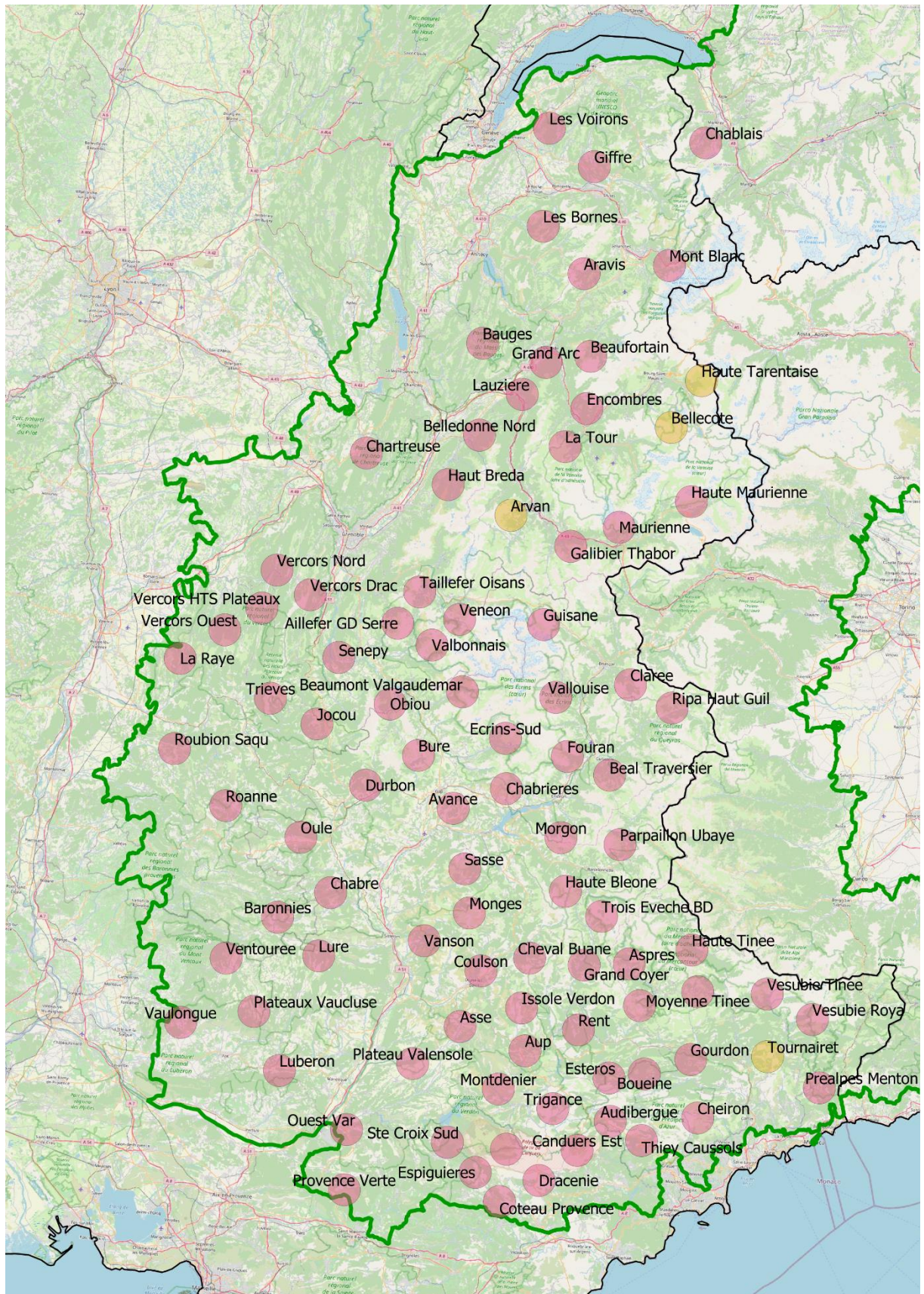


Fig. 7: Distribution of wolf packs in France in the perimeter of the Alpine Convention (green line); see Picture Credits, p. 48.

Synthesis of Statements from the French Interviews

1. *How or to what extent has the process of coexistence (the coadaptation strategy) with the wolf changed in the last years | decades | since its return? What are the political, social and technical aspects of these changes?*
 - When the wolves arrived in France, pastoral systems and actors were caught short and did not have time to adapt. The state focused on studies rather than protection measures without having a systemic approach to the problem. As a result, predation has been very high.
 - Around 2004, measures were put in place to protect herds (shepherding, guarding dogs and electrified nets) with public policies to provide incentives, particularly financial, to the herders, but no technical support. Predation was decreasing. Approximately since 2009, it became clear that the wolves have adapted to the protection measures which were thus becoming ineffective. So, predation has been increasing even on protected herds. The state is now setting up a policy of supervised shooting and work is underway to establish a *guard dog sector*¹⁶ as packs of dogs appear to be the most effective means for herd protection.
2. *What are the most pressing concerns and challenges regarding coadaptation with the wolf in your country | region?*
 - The issue of governance and methodology of action: to have places of exchange allowing local actors to express themselves; implementation of a holistic and/or systemic approach taking into account the complexity of pastoral systems and a logic of territorialisation (adaptation to local specifics). The issue of raising awareness among the general public is also raised.
 - How can pastoral activity be protected in compliance with protection commitments when the adaptation of wolves renders protection measures obsolete?
 - The living and working conditions of shepherds and breeders, as well as the psycho-social impact of attacks.
 - Protection dogs: a guard dog sector has to be established and the risk of increased conflict with other land users (hikers, bikers, hunters etc.) has to be assessed.
3. *What are the most important experiences ("learnings") they have made? What can other countries | regions learn from them?*

The main lessons learnt relate to the protection of herds with the aim of not eradicating wolves but keeping predation below a bearable threshold :

- Protection measures: to be anticipated/implemented as soon as possible.
- Protection dogs: they must be kept in packs to offer proper protection, they need to be educated with triple socialisation (towards humans, towards other dogs and towards sheep) and must be genetically selected.
- Shooting (regulated by authorities): to be introduced quickly to train the wolf to fear the herd and to cope with their adaptability.

More broadly, the importance of a systemic approach to predation, taking into account the diversity of farming systems, the living and working conditions of herders and not forgetting that wolves are not the only problem facing pastoralism.

4. *Where are the "gaps" in this learning and experience process? Where has too little attention been paid so far?*

¹⁶ Meaning a branch in agriculture that specializes in genetic selection of dogs, their education and management, and the management of problematic or over-aged dogs.

- Communication with the public in order to raise awareness for the reality of predation as well as for pastoralism in general has been neglected
- Lack of qualitative approaches concerning the psycho-social impacts of attacks on herders and farmers as well as concerning mediation and the behaviour of wolves
- Lack of training and support for herders and breeders on protection measures

5. *What mistakes could/should be avoided?*

- The main mistake to be avoided is not anticipating the implementation of protection measures in general and of not anticipating the importance of protection dogs in particular (genetic selection, education, etc.).
- Avoiding to “sacralize” the wolf and concentrating on only one party to adapt (in this case the humans).

6. *What could and should a fruitful knowledge transfer between people on this topic look like? What best practice examples do you know?*

- On protection measures: anticipation and early implementation of protections measures, the use of dog packs, supervised shooting and financial assistance in the implementation of protections measures
- Emergency units of shepherds and volunteers that come to the aid of shepherds following an attack
- Pastoral mediators (employed by the municipality) to meet hikers and other land users in order to raise awareness for proper behaviour when faced with protection dogs, and more generally, to raise awareness for the realities of pastoralism
- Territorialisation of approaches and solutions, meaning the adaptation to local contexts and specificities
- Networking of the pastoral actors

7. *What are the "crucial points" that need to be worked on now? What do we have to pay special attention to now?*

- Educate wolves to fear the herd (regulated shooting)
- Building up and structuring a sector for protection dogs: genetic selection, education and management.
- Trainings for shepherds and breeders on implementing protection measures
- Communication with the general public on the realities of pastoralism and on the living and working conditions of shepherds
- Better knowledge of wolf behaviour (ethology) and scientific work on mediation

8. *Feedback needed*

From other countries :

- What public aid (especially financial) is there for herd protection?
- What legal translation of the Habitat Directive (and regulation of shootings in particular) is there?
- How is the fight against predation implemented (technical exchanges)?

Comments and Summary

The arrival of wolves in the 1990s caught everyone by surprise: farmers, technical services and the state. Pastoral farming systems, which were set up in the absence of predation, did not have time to adapt. This has had major impacts on livestock farming systems, on the various forms of land use on mountain pastures where conflicts increased and on wild ungulates (predation and disturbance by wolves and protection dogs).

Retrospectively, the failure of the protection measures put in place in 2004 are visible today. The wolves quickly adapted to herd protection schemes (electrified nets, constant presence of human and protection dogs); the protective shootings were not flexible enough and not adapted to the realities of predation and neither is the handling of protection dogs (random genetic capital, poor education of the dogs and no training and other support for the breeders).

Another major problem identified is the “sacralisation” of the wolf in the wider society. It is seen as a symbol for biodiversity and equipped with extreme and often passionate importance at the risk of obscuring the realities of predation experienced by farmers and shepherds.

At present, protection dogs in packs appear to be the only protective measure that works. This is potentially problematic because an increase in the number of dogs may increase the number of incidents and accidents with humans and other animals. This is all the more so as the dogs work on instinct and not on orders, with the consequences of annoying tourists, of increased predation by the dogs themselves and the subsequent disturbance of wildlife.

Furthermore, *allotment*¹⁷ makes livestock farming practices particularly vulnerable to predation because it is more difficult (if not impossible) and expensive to set up protection systems. The challenge is to keep predation below a tolerable level. To do this, there are two main levers:

- Packs of protection dogs: training of technical services and breeders, establishing a guard dogs sector (work on genetic selection and education of dogs, management of problematic or over-aged dogs, providing information, etc.).
- Regulated shootings of wolves (to avoid the disappearance of the species) in order to recreate the fear of man: change of legislation.

There is a need to approach the issue from a systemic point of view and to gain a better understanding of the realities of predation. Moreover, we need to work on the conditions under which pastoral activities are carried out (particularly the housing situation). We also need to communicate on shepherding as a profession, the realities of current farming systems and the externalities produced by them (biodiversity, keeping areas open, natural risk management, etc.). A change of attitudes is also needed so that exchanges are possible, even (or especially) in the event of disagreement. However, the actors interviewed agree that lupine predation is not the major problem facing pastoral activity but it exacerbates already existing tensions of a fragile economic model.

4.1.1.6 Italy

Facts about the Wolf Population in Italy

In Italy, wolves have never been exterminated and have been protected by law since 1976. Although there were only a hundred or so left in the centre of the country in the early 1970s, since 1976 they have gradually recolonised the Apennine. Their presence was attested in the Genoa region in 1983. The recolonization of the Italian Alps is thought to have taken place either in the Abruzzes Park or in the Northern Apennine (Tuscany, Liguria).

In 2016, the size of the wolf population was estimated between 1100 and 2500 individuals, of which 293 resided in the Alps (46 packs and 5 pairs). However, there is no homogeneous monitoring of wolf populations between regions. The methods and timeframes differ, both in terms of population monitoring

¹⁷ “Allotment” is a breeding technique that groups livestock by batch according to certain criteria in order to improve quality or yield.

and in terms of the monitoring of attacks and victims, making it difficult to obtain a reliable estimate. Consequently, there are currently no precise figures on the evolution of wolf populations in Italy, particularly in the Italian Alps.

The Ministry of the Environment commissioned ISPRA (Istituto Superiore per la Protezione e la Ricerca Ambientale) to produce an updated estimate of the distribution of the wolf at national level and thus provide a credible scientific knowledge base. A working group has been set up and is working in collaboration with Federparchi Europarc Italia (the Italian Federation of Parks and Nature Reserves) and the European LIFE project WOLFALPS EU. Field data collection will be carried out between December 2020 and March 2021.¹⁸

In the report on the prevention of damages by large carnivores in the Alps provided by the Alpine Conventions Working Group on Large Carnivores, Wild Ungulates and Society (WISO) the current monitoring numbers of the regions Piedmont, Liguria, Aosta Valley, Friuli Venezia Giulia, Autonomous Province of Trento, Veneto and Lombardy are to be found (see WISO Report, 2020 p. 88-103).

Synthesis of Statements from the Italian Interviews

1. *How or to what extent has the process of coexistence (the coadaptation strategy) with the wolf changed in the last years | decades | since its return? What are the political, social and technical aspects of these changes?*
 - The main change was the implementation of protective measures which are costly and time-consuming for farmers and shepherds: constant presence with the herds, night pens and protection dogs, which pose a problem with tourists.
 - Polarisation of the media and politicisation of the subject, the idea of coexistence is becoming increasingly difficult.
 - A positive point noted was the emergence of relations between shepherds and public authorities.
2. *What are the most pressing concerns and challenges regarding coadaptation with the wolf in your country | region?*
 - The cost of protection measures and the difficulties linked to financial compensation (administrative delays, late payments, etc.)
 - The fragility of the pastoral economy is an issue that goes beyond lupine predation: vulnerability of pastoral systems, low economic value, difficulty in finding alpine pastures, living and working conditions of shepherds
 - The need for education and communication: to educate the public on the understanding of alpine farming and to limit the instrumentalization of the media by radical breeders against wolves.
3. *What are the most important experiences ("learnings") they have made? What can other countries | regions learn from them?*
 - The main issue is transparent communication on the monitoring of populations and the collective representations/imaginary of the figure of the wolf that needs to be demystified.
 - The protection of herds, particularly through constant guarding with dog packs stands out
 - The importance of mediation between groups and the importance of co-constructing knowledge among stakeholders rather than transferring knowledge from "experts to laymen"

¹⁸ <https://www.lifewolfalps.eu/fr/articolo-1/>

4. *Where are the "gaps" in this learning and experience process? Where has too little attention been paid so far?*
 - Financial assistance for shepherding and for protections measures (electric fences and guard dogs)
 - The possibility for the shepherds to defend the herd with defensive shots
 - To understand why the wolf population has grown so rapidly in such a short period of time
5. *What mistakes could/should be avoided?*
 - Underestimating the adaptive potential of wolves, which quickly renders protective measures obsolete
 - Not to worry about the management of guard dogs at the risk of increasing conflicts of use on mountain pastures
 - Not having a constantly guarded herd. The main error is to leave the flock unattended.
6. *What could and should a fruitful knowledge transfer between people on this topic look like? What best practice examples do you know?*
 - Putting protective measures in place as soon as possible: constant presence with the herd, night pens, protection dogs
 - Inclusive working methods with all stakeholders
 - Peer exchanges rather than knowledge transfer and collective organisation of shepherds
 - Individual and contextualized communication (a good example is a dedicated team of veterinarians in Piedmont who have succeeded in building a solid relationship of trust and cooperation with the shepherds)
7. *What are the "crucial points" that need to be worked on now? What do we have to pay special attention to now?*
 - The cost for the implementation of protective measures and the difficulties related to the bureaucracy of compensation schemes
 - Polarisation: idealisation of nature versus total rejection of wolves; this makes dialogue difficult
 - The need of a national plan for the conservation and management of wolf populations and the territorialisation of predation management
 - The need for better consideration and training for shepherds who should be allowed to shoot wolves to protect the herd in case of an attack
 - The conflicts of use especially when guard dogs are involved. It is necessary to raise awareness among tourists on pastoralism and shepherding as a profession

8. *Feedback needed*

- Information and training of shepherds and breeders on protection dog management
- To know more about the french system of damage compensation, financial support (on aid for herd guarding in particular) and wolf shootings
- Links between domestic and wild fauna

Comments and Summary

The arrival of wolves in the Italian Alps has considerably changed pastoral practices, particularly through the implementation of protection measures resulting in additional cost and workload for shepherds and breeders. The inherent limitations of the compensation system and financial aid for the implementation of protection measures is a strong issue pointed out by breeders and shepherds. Protection dogs, which have become indispensable, are expensive to maintain and create problems with tourists. There is therefore a need to support breeders and shepherds particularly in the management and education of dogs and in the implementation of protection measures in general.

The issue of monitoring wolf populations and attacks is also problematic. The lack of transparency around these figures encourages a certain distrust for politicians and scientists. This mistrust towards scientific research is fuelled by the impression that monitoring wolves is more important than finding measures to promote coexistence.

The shepherds often mentioned the French example and put it in a positive light, in particular the policy of protective shootings, the financial support from the state for the implementation of protection measures and financial compensation in the event of attacks.

The challenges of the coexistence of pastoral activities and tourism are also an issue. The need for communication with the public on the realities of pastoralism and the demystification of the wolf was clearly expressed.

4.1.1.7 *Slovenia*

Facts on Wolf Population in Slovenia

As in Italy, in Slovenia the wolf never completely disappeared but survived prosecution in remote parts of the Dinaric Mountains. Systematic wolf monitoring began in 2010 and the population then was estimated between 34 and 42 individuals. Data from the monitoring season 2018/2019 suggests that there are between 86 and 110 wolves in Slovenia forming 14 packs. Since then a leap in spatial expansion happened and not only single sporadic individuals but the presence of three newly established wolf packs in the Slovenian alpine and pre-alpine regions was detected.¹⁹

There has been a significant decrease in wolf attacks on livestock from 2010 (575) to 2016 (93). However, recently Slovenia has experienced again a strong increase in wolf damages (377 in 2019), which can be attributed to the expansion of the wolf territory to the Alpine and Pre-Alpine parts of the country. Additionally, the damages on larger grazing animals have increased (mostly cattle), as most of the damage prevention technologies have been tested and developed for smaller animals (sheep, goats) (see WISO Report, p. 180).

¹⁹ <https://www.lifewolfs.eu/en/the-wolf-in-the-alps/the-wolf-in-slovenia/>

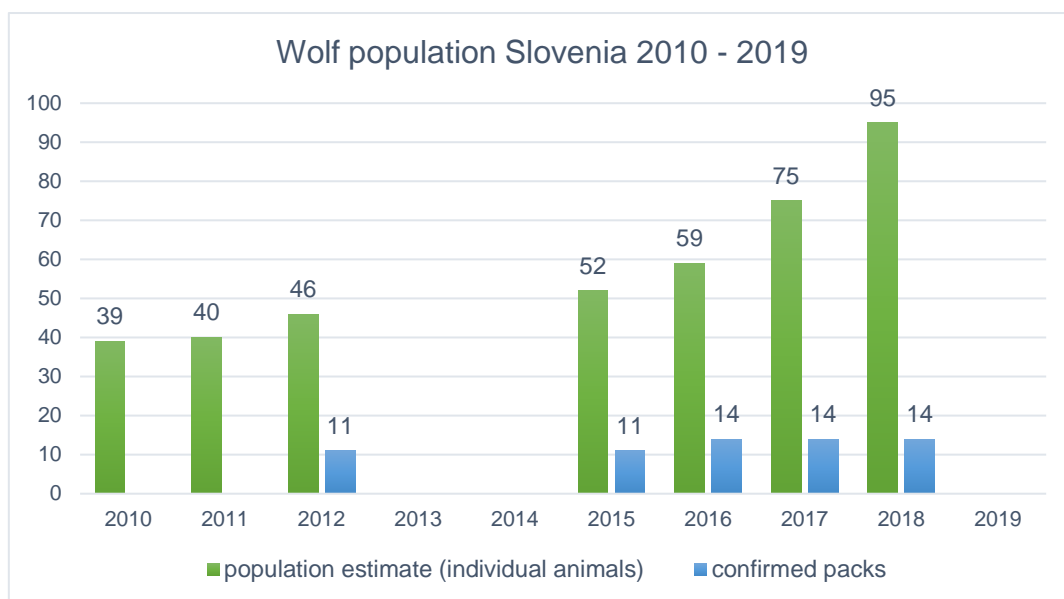


Fig. 8: Development of wolf population in Slovenia from 2010 – 2019. WISO Report 2020, p. 181.

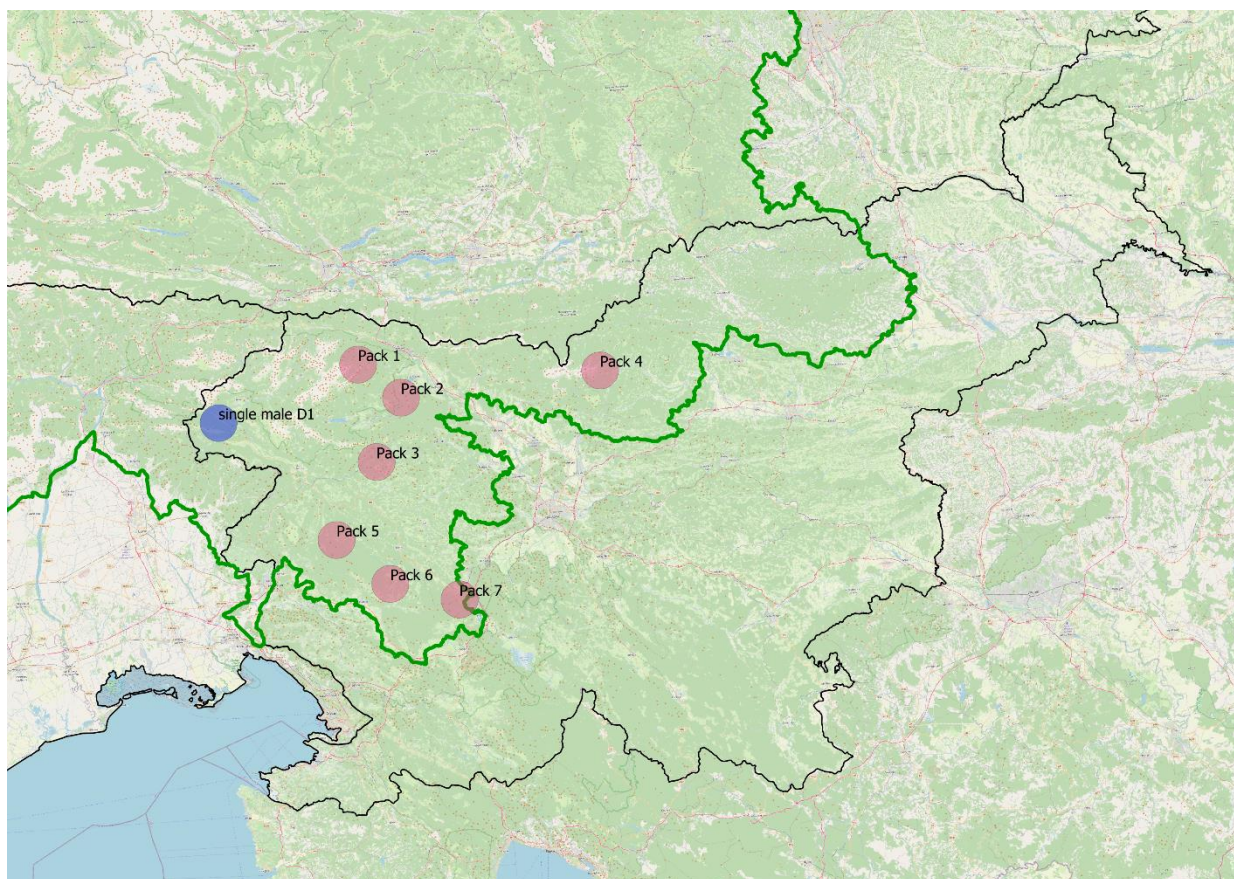


Fig. 9: Distribution of packs in Slovenia in the perimeter of the Alpine Convention (green line). See Picture Credits, p. 48.

Synthesis of Statements from the Slovenian Interviews

1. *How or to what extent has the process of coexistence (the coadaptation strategy) with the wolf changed in the last years | decades | since its return? What are the political, social and technical aspects of these changes?*
 - The wolf population has grown and is expanding into new areas.
 - In general, herd protection improved significantly in the last years and all interviewed practitioners have increased herd protection since the wolf is present in their area. An increase in the use of herd protection dogs was also stated.
 - The monitoring of wolves was put in place and improved over the last 10 years.
 - Farmers now receive more institutional support as subsidies for herd protection measures were implemented. Additionally, the administration distributes more herd protection dogs and offers support in their training.
 - Conflicts appeared in regions where people were not used to wolves. The farmers were not adapted to the return of the wolf, which led to big damages and in turn put more pressure on politicians. This brought about a juridical back and forth on the topic of shooting problematic wolves.
2. *What are the most pressing concerns and challenges regarding coadaptation with the wolf in your country/ region?*
 - The polarisation and instrumentalisation of the conflict and with it the anti-wolf-mentality and the anger towards the government was a big problem. It got worse since the abolishment of culling, as this was seen as a compromise before and now one group feels neglected. It would be crucial for the protection of large carnivores to increase acceptance among the population. This is what the national management plan is trying to do now by decreasing the impact of the wolf.
 - The strict protection status of the wolf where no culling is allowed was mentioned several times which according to the interviewees promoted illegal hunting.
 - Necessary herd protection measures require more support (financially and knowledge-wise) from the state since livestock keeping is existentially threatened due to the return of the wolf and the hence increased farming costs.
3. *What are the most important experiences ("learnings") they have made? What can other countries | regions learn from them?*
 - It helps if the state administration advises people on site and informs them in order to show they are aware of the situation and to avoid illegal actions.
 - Peer to peer teaching turned out to be working well, so it would be most beneficial if the government organised their workshops and advisory events accordingly.
 - Monitoring is very important for scientifically informed political decisions and preventing instrumentalisation through politics. Furthermore, if you involve people, e.g. hunters, in the monitoring process they will trust the numbers more.
 - Stopping hunting quotas was a mistake with regard to the public perception of the topic, to illegal hunting and to population management. One can only avoid extreme positions by giving both sides room and make space for compromise.

- Collaboration of the different state departments (e.g. forestry and agriculture department) and coordinated communication is important for effect in the field.
4. *Where are the "gaps" in this learning and experience process? Where has too little attention been paid so far?*
- A need for improvement of data availability was stressed throughout. More information on the numbers of predators are needed in order to have a common ground on which to talk to each other.
 - More scientific research about new technologies in herd protection is needed.
5. *What mistakes could/should be avoided?*
- Radicalisation and extreme messages until even prevention measures can no longer be presented neutrally.
 - Having inaccurate monitoring data: It is very bad for the trust of the population that different numbers of wolves are circulating.
 - Waiting too long before implementing herd protection, not having herd protection or poor maintenance of material for herd protection.
6. *What could and should a fruitful knowledge transfer between people on this topic look like? What best practice examples do you know?*
- Exchange needs to happen between everyone involved in the topic: hunters, farmers and the state in order to foster mutual understanding. This would reassure farmers and reduce polarisation. This is already taking place in parts, but it seems not everyone is aware of it.
 - Some of the interviewed persons already take part in transnational exchange with Switzerland and neighbouring countries.
 - Exchange between the forestry and agricultural departments is already taking place and works well.
7. *What are the "crucial points" that need to be worked on now? What do we have to pay special attention to now?*
- Better and more widely available monitoring data of wolves and sheep herds
 - Regular events at the community level that bring different sides together are crucial in order to discuss, let anger out and share perspectives. This could foster mutual understanding and reduce alienation of the groups.
 - The wolf should not be a protected species under Annex 4²⁰ in Slovenia, which means that every individual is protected. Instead, Annex 5 would be better suited for the situation as this would increase the acceptance of the population.
 - Better communication by the state about existing financial support and subsidies, e.g. for herd protection measures, is needed.

²⁰ Here: Annex 4 of the EU Habitat Directive.

- It is important to work on gaining acceptance among farmers for the fact that wolves are here and will stay.

4.1.2 Results and Findings by Guiding Questions - Cross-Sectioned by Countries

In the former section, an overview and summary of the interviewees' answers by country was given. In the following section a summary on the respective answers to the guiding questions across the alpine countries is given. The aim is to show where there are parallels and common desires to cope with questions of coadaptation across the Alpine Space. At the end of each section, conclusions and recommendations are added aiming at the facilitation of (enhanced) implementation of coadaptation strategies in different contexts.

1. *How or to what extent has the process of coexistence (the coadaptation strategy) with the wolf changed in the last years | decades | since its return? What are the political, social and technical aspects of these changes?*
 - In all countries an increasing polarisation of the topic over the last years and a hardening of fronts as well as a political instrumentalization of the issue are reported.
 - Herd protection was improved in many areas (but not all) and it has become more common in the last years since the return of the wolf in respective areas. Nevertheless, it is often hard to build capacities before the wolves are there and with them the pressure to do something.
 - On an institutional/governmental level herd protection advisories have been put in place, but among the countries the quality of these offers and the years of experience with it vary. Moreover, some - if often seen as insufficient - financial support for herd protection is offered now in most countries.
 - In order to deal with the tensions and the polarisation round-tables and stakeholder meetings have been initiated with varying success. Overall, it seems they work better on a small, local scale than on a larger, regional or national scale.
 - In terms of the development of the population's attitude towards the wolf, a heterogeneous picture emerges. In some areas/countries the attitude became more oriented towards practical solutions after the initial "wolf must go" attitude. Other areas are still in a phase of denial and refuse the fact that the wolf is back as a protected species. In the narrative of the people interviewed, this appears to sometimes coincide with conspiracy thinking or "them against us" mentalities, as well as low trust in the government.
 - Even in countries where herd protection generally is lagging behind, such as Austria, some individual actors are trying to find constructive solutions despite any resistance.

Conclusions and Recommendations

Here, as in many answers to other questions posed to the interviewees, a general lack of factual knowledge or the neglect thereof is deplored. The answers to the question on the general development of coadaptation strategies perpetuate mostly around the issues of political instrumentalization, polarisation and a lack of knowledge or meagre knowledge distribution on herd protection in its manifold dimensions.

To **counteract political polarisation and instrumentalization international and interregional comparisons and exchanges between administrations and political actors would be helpful** in order to learn from worst cases and best practices. Additionally, the **development of communication strategies in politics and administration** is recommended to intercept impulsive, over-emotional and clientele oriented communication. Concerning herd protection and the above-mentioned missing

capacities (e.g. on the capacities of herd protection advisories) **interregional and international exchange of administrations and practitioners on herd protection** for further improvement is advisable, also for funding issues.²¹

For counteracting tensions and polarisations round tables ("stakeholder meetings") were mentioned. **Interregional and interdisciplinary exchange on coadaptation issues can be recommended but it has to follow certain standards.** Such round tables should take place on a regular basis and on a rather localized scale. Moreover, they should be facilitated by experienced and well-trained experts that are widely accepted and seen as trustworthy across different areas (e.g. farming, hunting, administration, science).

At last it seems to be **necessary to develop communication strategies, e.g. by regional and national administrations**, to counteract demonization and romanticisation of wolves and in order to spread factual knowledge among the public on topics like predation and herd protection. If there are no functioning strategies supported and carried out by the authorities but only reactive communication other institutions and organizations will take over the opinion making process and it ends up in black and white positions and the hardening of fronts that we can see now very often.

2. *What are the most pressing concerns and challenges regarding co-adaptation with the wolf in your country | region?*

- In many countries, a better systematisation of the coadaptation process is wished for. This means for example finding effective standards for stakeholder meetings, defining (geographical) working ranges more fact-based (e.g. according to wolf territories; even across borders) and using well-trying communication methods throughout the process.
- In most countries, deficits in communication are noted such as the need for improvement of the urban-rural dialogue.
- Herd protection is the most important factor in all countries. The more experience with wolves a region has, the more specific the mentioned herd protection issues are.
- The higher the number of wolves and the higher the importance of alpine sheep farming in a country or region, the more the living and working conditions of shepherds become a crucial issue. The vulnerability of the profession and the missing appreciation (socially and financially) is highlighted regularly. This fact is also mentioned in other countries, whereas the focus there seems to be more on communication on the efforts and relevance of alpine farming in general.
- In all countries, there are various problems with protection dogs. In countries with no experience, these are mostly of legal nature and/or concern the (missing) systems of breeding, training and distribution of dogs. Interviewees with direct experience report mainly problems with tourists and residents.
- In Austria, Germany, Switzerland and Slovenia the problem of populism and political polarisation is mentioned regularly.
- In France, the adaptation of the wolf to herd-protection measures is mentioned as a pressing issue.
- Only in Slovenia, there is a strong reference to the big problem of illegal hunting since the culling of wolves was dismissed due to EU legislation.

²¹ Such exchanges and the institutionalization of herd protection trainings are currently being developed in the LIFEStock Protect-Project in Austria, Bavaria and South Tyrol (<https://lifestockprotect.info/en/>).

Conclusions and Recommendations

The first bullet point above summarizes already three of the most pressing concerns:

- A. Having professionally carried out and facilitated stakeholder meetings (see above: “Conclusions and recommendations” to question 1)
- B. a territorialized cross-border approach for monitoring
- C. professionalization of communication on all levels

For (B) cross-border exchanges of experts (scientists and practitioners like hunters, game wardens, shepherds) on monitoring methodologies and monitoring data are recommended in order to harmonize data and foster the trustworthiness of data among practitioners. In Italy, in the course of the LIFE Wolf ALps Project, for the first time a transregional approach to wolf monitoring in the Alpine regions of Italy is being undertaken.²² This can serve as an example, but also **the transnational dimension has to be taken into account in the Alpine Space**, as national borders do not intercept the wolves’ mobility.

Ad (C): The missing professionalization of communication with the public can be counteracted by the development and **implementation of communication strategies by administrations and politics on national and regional level. Targeted communication training** for technical services and administration (official veterinarians, herd protection advisors, killing assessors, game wardens, shepherds) can also be highly recommended and is of crucial importance.

In order to improve herd protection measures and heighten their acceptance interregional and international exchanges including members of the administration and practitioners (farmers, breeders, shepherds) can be a very effective means. **Especially issues concerning herd protection dogs (genetic selection, breeding, training and education, the keeping of packs, purchasing conditions and distribution of dogs, legal issues etc.) emerge persistently** in the interviews. **Here international exchange and the distribution of information is urgently needed to learn from one another and to improve prevailing conditions.** Additionally, opportunities for education and professionalization for shepherds are scarce in the Alpine Space and are urgently needed. The LIFEStock Protect Project is also working on this problem as well as on protection dog related issues e.g. with the establishment of “Herd Protection Competence Centres”.²³ However, **regional and national administrations from the agricultural sector are well advised to foster education and training of shepherds as well as to improve and standardize working conditions** in order to have a very good lever in tackling the challenges of wolf predation.

3. *What are the most important experiences ("learnings") you have made? What can other countries | regions learn from you?*

- The main learning process concerns herd protection: it is indispensable and to be anticipated.
- The second is that of a systemic and collaborative/co-constructed approach in order to limit extremist positions. The importance of mediation, interpersonal competence and transparency of information are also mentioned.
- The issue of the helpfulness of technical support for pastoral actors in the implementation of protection measures and the importance of territorialisation of solutions also appear, but more marginally.

Conclusions and Recommendations

Obviously, further implementation and continuous improvement of herd protection measures are needed almost everywhere in the Alpine space. **It cannot be stressed enough that herd protection measures**

²² <https://www.lifewolfalps.eu/en/articolo-1/>

²³ <https://lifestockprotect.info/en/south-tyrol-has-found-its-first-livestock-protection-competence-center/>

should be in place BEFORE wolf attacks start. In reality, however, implementation usually follows the attacks leading to a lot of grief, unnecessary losses of livestock and authorities that have to react instead of act, and additionally must deal with strong emotions and accusations. **Especially regions where the wolf is known to appear in bigger numbers soon, such as the Austrian and Bavarian Alps²⁴, it is highly recommended to enforce herd protection measures, invest in capacity building and learn from the experiences in neighbouring countries.** Again, the LIFE Stock Protect Project can be mentioned that targets these regions as well as South Tyrol. Additionally, the efforts that have been undertaken during the LIFE Euro Large Carnivores Project are important to mention. The project ends in 2021 and has also worked on concrete actions to be taken in numerous regions and countries all over Europe.²⁵

As the wolf is highly adaptive and - as it is seen in France²⁶ - gets used to protection measures, these measures should also be adapted and developed further on a regular basis. **Digitalisation and monitoring technologies such as drones offer a variety of facilitation approaches for shepherds and breeders. Exchange on new possibilities and approaches as well as funding of such measures are needed.** In addition, “traditional” herd protection measures such as nets and guard dogs need constant adaptations and deeper knowledge to implement them properly. Therefore, it is highly recommended to national and regional administrations (agricultural departments, forestry departments, environmental departments etc.) to regularly exchange with administrations and practitioners from other regions and/or countries to share experiences and pool resources. This is also true when it comes to counteracting extremist positions: factual knowledge gained from such exchanges helps counteracting such positions.

Regarding the issues of the above mentioned “mediation, interpersonal competence and transparency of information” see below the “Conclusions and recommendations” of question No. 4:

4. *Where are the "gaps" in this learning and experience process? Where has too little attention been paid so far?*
 - A longing for fact based communication and/or mediation among and between stakeholders; e.g. farming associations, tourism etc. to overcome prejudices. Here a lack of knowledge of the realities of predation is recognizable and should be counteracted.
 - Additionally, training for livestock keepers and herders concerning protection measures is missing.
 - Missing communication and education for the wider public in order to reduce knowledge gaps and resulting prejudices and fears is a big issue as well. The above-mentioned lack of knowledge concerning predation is even bigger among the wider public. This affects e.g. tourism strongly as “guests are where farming takes place”, as one interviewee put it. Here a better understanding of herd protection measures is urgently needed. Additionally, not just realities of wolf predation but also realities of mountain farming are widely unknown. The knowledge gap between urban and rural areas - but also in rural areas themselves and in semi-rural areas - is palpable, and poses a challenge to which it is necessary to respond.
 - It was mentioned more than once that the social sciences` contributions would be necessary here, but only if they can make practical suggestions and assessments to the topic, e.g. concerning mediation issues and animal behaviour.
 - Another important gap mentioned was the “missing of active monitoring” of wolves. Exact and reliable data is missing in several countries and obviously poses a big challenge. Connected to

²⁴ See Rauer, G. (2019).

²⁵ <https://www.eurolargecarnivores.eu>

²⁶ See p. 19 – 24 in this report.

this are open questions mentioned in the interviews concerning the quick increase of the numbers of wolves (e.g. in Italy and Slovenia).

- Two other underestimated issues mentioned were the psychosocial impacts of wolf attacks on herders and breeders and the missing research on new technologies for herd protection.

Conclusions and Recommendations

Interdisciplinary exchange among different stakeholders in and between regions and even countries is an important measure to meet the challenge of missing knowledge and prejudices when it comes to the realities of predation and the challenge of dealing with them. **It is crucial to consider that deep-rooted conflicts between people with different values and interests exist here, and that this plays a vital role when it comes to dealing with wolf-related issues.** Many conflicts concerning the management of wildlife and natural resources are social conflicts between people and interest groups and an underlying mistrust. The wolf serves here as a good proxy for such conflicts (see KORA report, p. 34-36 and 52-56). "Despite the diversity of conflicts associated with large carnivores and the diversity of approaches that exist to reducing these conflicts, there is one common feature that appears to be central to a successful approach. And this is the need to engage with a diversity of stakeholders in a targeted, context dependent and meaningful manner." (Linell 2013 cited in KORA report, p. 52). There are many different methods for stakeholder engagement (working groups, contact fora, practical support, joint monitoring or joint development of action plans, or even co-decision-making processes. In the end, the method is less important than the process itself and the attitude with which it is approached: **participation must be based on principles that promote empowerment, equity, trust and learning** (see *ibid* p. 53).

When it comes to communication with the wider public, regional administrations are needed that show the willingness to provide information in a transparent and timely manner. This approach prevents the spread of rumours and enhances the credibility of the authorities. Game wardens are essential to the communication about wolves. As direct contacts for the population and the municipalities, they play a very important role as an interface between the inhabitants and the (federal) state. They are also a kind of "antennae" which perceive the concerns of the population (see *ibid*, p. 57; see also "Conclusions and recommendations" to question no. 6 below, p. 37-38).

The "missing of active monitoring" cannot be circumvented when professional wolf management is needed. **Structures for professional monitoring have to be established in which the distribution, use of space and behaviour of wolves are monitored and kills and losses are recorded on an ongoing basis** (see Sürth, Miller et al. 2018, p. 91). It can also be vital to involve locals (shepherds, hunters, game wardens etc.) into the monitoring activities in order to heighten the trustworthiness of the activities and of the collected data among the local public. Often there exists a deep rooted mistrust for data provided by the authorities if no involvement of the local population has taken place at all.

Regarding the psychosocial impact of wolf attacks on shepherds and breeders immediate intervention units are needed. Currently, such Wolf Prevention Intervention Units (WPIUs) are being implemented in the LIFEWolfeAlps EU project.²⁷ However, such intervention units should not just give support when it comes to attack prevention but should also be trained to give immediate support when an attack has happened. Often it is a deeply shocking and disturbing experience to find one's livestock suffering from an attack. To talk about the experience with a proper trained person may help a lot in this case.

5. *What mistakes could/should be avoided?*

- The main mistakes to be avoided concern first of all protection measures: it is a question of not waiting before putting in place the protection measures, of dealing quickly with the management of guard dogs (genetic selection/breeding, education/training, management).

²⁷ <https://www.lifewolfealps.eu/en/al-via-la-prima-stagione-delle-squadre-di-supporto-alla-prevenzione-delle-predazioni-in-alpeggio/>

- The importance of political involvement appears to be critical. The issue needs to be approached seriously with a clear political will and professionalized communication and by promoting exchanges between representatives of stakeholders (shepherds, hunters, etc.). Decisions must be taken based on the prevailing realities and by involving stakeholders in the design and implementation of the resulting measures. Damage assessment, compensation and herd protection should be managed by the state.
- The issue of communication appears to be a very important point: it is important to raise the public's awareness of the realities of pastoralism, predation and mountain farming and to manage communication with the media.
- Monopolies and lack of transparency in monitoring wolf populations and damages should be avoided.
- The importance of having a factual (rather than political or emotional) discourse is mentioned, in order to avoid politicisation or radicalisation of the debate.

Conclusions and Recommendations

Regarding the early implementation of prevention measures see “Conclusions and recommendations” to question 3 above (p. 33-34). **Especially when it comes to protection dogs, an early, proactive assessment of the legal, educational, financial and practical situation is needed.** Protection dogs are born into “their” herd and live there throughout the whole year. They work largely independently without being directly commanded by their owners and they react suspicious of all things new and strange to them. The dealing with protection dogs in regions that have had no contact with large carnivores for a long time triggers a learning process and is a complex issue. **For (re-)integrating the keeping of such dogs into the daily life of shepherds and breeders mutual respect is needed between the keepers of livestock and non-agricultural actors** (see Mettler, 2019 p. 233-237). Additionally, training and financial resources must be provided by the authorities in order to establish a working system of breeding, obtaining, training and the distribution of dogs. A lot of experience has been gathered in countries like Switzerland and France in the last decades. **It is highly recommended to regions where the keeping of protection dogs is still a new phenomenon, to establish close ties and entertain good relations and exchanges with relevant actors in the respective regions of those countries.**

Concerning political involvement, a prerequisite for a constructive handling and a fact-based approach to coadaptation is the will to make it work. Political authorities have to distance themselves from emotional debates and implement the often already available management plans. In addition, among politicians, exchanging knowledge with their colleagues from neighbouring countries in order to learn from best practice examples would be highly important, as coadaptation with wolves is a challenge that affects every alpine country.

6. *What could and should a fruitful knowledge transfer between people on this topic look like? What best practice examples do you know?*
 - As a successful example of knowledge transfer, the program “Pastoraloup”²⁸ in France was mentioned where volunteers support shepherds in their work. A similar program - though not mentioned in the interviews - is PASTURS²⁹ in Italy. Good experiences with volunteers aiding a shepherd have also been made in Austria on a very small scale.
 - While organizing knowledge transfer local and regional conditions have to be considered as very often there are no general solutions

²⁸ <https://www.ferus.fr/benevolat/pastoraloup>

²⁹ <https://pasturs.org/>

- Networking and collaboration should be facilitated for/among shepherds and the realities of shepherding have to be made public knowledge
- Peer-to-peer knowledge exchange was mentioned to work best several times
- As settings for knowledge transfer it was mentioned that informal settings are best, e.g. excursions, that are aimed at individuals not at groups. They allow one to engage in an effective way and in the proper context. Especially herd protection excursions can convey the actual effort that is needed to implement effective measures.
- It was mentioned several times that “everyone should be involved” in knowledge transfer, at the same time it seemed important that knowledge transfer happens in small groups and on a regular basis. “Everyone” in this context means “all stakeholders” and that no group of stakeholders should be left out. In this regard, it was emphasized that especially political stakeholders should take part more often in knowledge transfer concerning herd protection and/or coadaptation measures.
- One idea for knowledge transfer referred to a “pastoral mediator”, a person that informs tourists about how to behave towards protection dogs and herds, about pastoralism and the profession of shepherds in particular. Such mediators have been engaged in the valley of Ubaye, Alpes-de-Haute-Provence (France), for example.³⁰
- As a best practice example, the good relation and cooperation between the Slovenian Forest Service and the Agricultural Chamber was mentioned. Both stakeholders collaborate and generally pull in the same direction concerning coadaptation and protection measures which creates trust in other stakeholders (farmers, breeders, shepherds etc.).

Conclusions and Recommendations

Some best practice examples and recommendations as such are already mentioned in the list above. However, there are various means of communication from direct to indirect communication that have different ranges of reaching out into the public. All of these have different impacts and are often applied in one or another way, but the question is “What improvements can be made?” In the swiss KORA report from 2020 this question is answered as follows (p. 57-60):

- **Prompt and proactive communication** e. g. in case of damages or kills with as little delay as possible and thereby manage uncertainties and distinguish facts from assumptions.
- **Regular communications:** Even if wolf populations are established in a region, regular information on the wolf situation is vital because as soon as information reaches the public through other channels, the public loses trust.
- **Involve the municipalities:** When a wolf-related event occurs in a municipality, the local authorities are confronted with enquiries from both the population and the media and therefore need to be integrated in wider communication strategies of the authorities.
- **Messages conveyed:** Until now, “wolf news” mainly had negative connotations. What is missing from the communication about the wolf is information about “normal” experiences with this species. Constructive messages and examples on the coexistence of wolves and humans and the coexistence of people who have different “wolf images” should be communicated more actively.

The above-mentioned transfer of knowledge aims mainly at authorities communicating with the public. Besides, other and more direct forms of knowledge transfer are very helpful and are already being applied in different contexts. Such forms of knowledge transfer like peer-to-peer exchanges, excursions, regular round tables and stakeholder platforms, conferences and forums are important vehicles for creating understanding and knowledge. A cross border approach concerning these should be pursued more intensively. Exchange and dialogue between people is the most effective means to create

³⁰ <http://www.auvergne-rhone-alpes.developpement-durable.gouv.fr/IMG/pdf/infoloup32.pdf>

understanding and to transfer knowledge and as wolves are not dependent on national or regional borders, people should not be either.

7. *What are the "crucial points" that need to be worked on now? What do we have to pay special attention to now?*

- In all countries it was emphasised that more attention should be paid to the working conditions in alpine agriculture and its important contribution in preserving landscapes and biodiversity. These efforts are not valued enough, financially and socially. However, this problem exists also without the wolf but is increased and highlighted by its presence.
- In many countries the financial support for protection measures is not sufficient. Furthermore, it focuses too much on compensation and neglects prevention. This should be adjusted.
- In most countries communication has to be improved on different levels. In countries with many wolves it is mainly communication with the public that needs to be improved. This also plays a role in the other countries, but there the necessity of improvement of communication processes between politicians and experts were rather mentioned.
- Having more exchanges was not regarded as crucial, but some interviewees emphasised that so far not all interest groups have been included (e.g. tourism).
- In most countries, there is a demand for more scientific knowledge. This refers mostly to monitoring data in order to be able to adequately assess the situation. To a lesser extent, scientific research on the effectiveness of herd-protection measures was mentioned, which seems to be missing so far.
- In a few countries, it was regarded as crucial to educate the wolves not to attack herds. This education usually means (selective) shooting of wolves. In this context, some advocate for better training for shepherds and to arm them, if necessary.

Conclusions and Recommendations

Many different topics are crucial points for the interviewees as the heterogenous list above shows: More and better communications, more funding for prevention measures in comparison to compensation payments and more scientific knowledge as well as a more effective "education" for wolves are mentioned. What can definitively be concluded here is that an important underlying issue should be addressed more intensively and transparently:

Small structured mountain agriculture, as it is often associated with the Alps, is strongly affected by structural change. Less and less people in Europe earn their living in agriculture, let alone in agriculture as the sole source of income. In most European (and therefore alpine) countries farmers are a minority, as most of the inhabitants in the Alps live in cities and towns. Additionally, public debates on land use, animal welfare and the use of pesticides lead to a polarisation in society. At the same time, romantic attitudes towards nature and wilderness are on the rise for which large carnivores often serve as flagships. **This divide - very roughly spoken - separates urban from rural populations. Or, it separates people living in and from agriculture and people being utterly unfamiliar with the realities of (mountain) farming and/or shepherding on alpine pastures.** Here smart communication strategies by the authorities are needed in order to transfer knowledge on the realities of mountain farming to urban or peri-urban inhabitants. Also tourism could play a vital role here as the rural, "pristine" mountain areas are popular tourist destinations. A more elaborate communication on the importance and the general benefits, but also on the challenges of mountain farming in the Alps, is urgently needed. The impact of the return of wolves is just one factor that has to be assessed here. Even more importantly, general urban-rural relations concerning agriculture, ecology and socio-cultural issues should be part of educational programmes in schools. Especially the working conditions of shepherds, their social rank and their rising responsibilities and professional requirements due to herd protection measures should

be taken into consideration by the authorities in agriculture and tourism (see “Results of Field of Investigation 2” in this report).

8. *On which topics concerning the coadaptation of humans and wolves would you like to gain feedback and/or deeper knowledge?*

- Deeper knowledge on communication or communication training for difficult contexts was mentioned more than once
- Also the desire to know more about protection dogs (breeding and selection, acquisition, education etc.) and their handling in other countries was mentioned several times
- It became clear that people would like to know more on the “situation in France”, as predation challenges and the wolf population are biggest there.

Conclusions and Recommendations

Here again a desire for “better” communication in different contexts is mentioned. It is easy to detect the missing communication efforts or communication efforts that do not lead to solutions or at least on a constructive path concerning human and wolf-relations. **In the pending follow up project to this preparatory survey done by CIPRA International, CIPRA Germany, CIPRA France and CIPRA Italy the focus will be, among other things, on exactly this topic (see more below in the general conclusions).**

Concerning protection dogs, the recommendation is - especially for countries and regions where protection dogs are a rather new phenomenon - **to set the course immediately for a functioning system of breeding, obtaining, training and distribution of such dogs;** legally and practically spoken. It is a complex and challenging issue especially in regions where alpine pastures play a vital role in tourism and deserves special attention. At the same time, healthy and well-bred and trained protection dogs provide the most effective protection against predation. **As there are many mistakes that can be avoided through the sharing of expertise and experience, international exchanges especially concerning the issue of protection dogs is dearly recommended.** Regional and national administrations, breeders, shepherds, game wardens, hunters and also people working in tourism (guides, employees working in marketing and communications, managers etc.) can forego major difficulties if properly informed as the protection dogs’ behaviour differ considerably from the behaviour of other working dogs regarding training, dog keeping and operational mode. Especially in regions where large carnivores have long been absent, the handling of protection dogs triggers a learning process and can easily lead to conflicts between tourism, agriculture and hunting (see Salvatori et al. according to Mettler 2019, p. 237).

Apparently, there is a big interest in the developments in France concerning coadaptation of humans and wolves. As the most wolf packs in the Alpine Space live in France, this is very comprehensible, a lot of effort has been put in coadaptation strategies there, and a lot of knowledge and experience have been gained accordingly. At the same time, also in France there is a need for gaining more knowledge especially on the above-mentioned topic of protection dogs (see section 4.1.1.5 “France”, p. 19 - 24). **So, again international exchange between administrations and practitioners (shepherds, breeders) can be highly recommended in order to avoid making the same mistakes in different countries again and to adapt functioning models of herd protection, communication, grazing management and the management of large carnivores to other national and/or regional conditions.**

4.2 Results of Field of Investigation 2: Potentials and Challenges for a cross-border Shepherd Organisation

The return of large predators to the alpine region has brought the profession of shepherding more to the public's attention in recent years. In the past, it was sufficient if the animals returned from the alpine pastures healthy and well fed in autumn, but now shepherds are suddenly confronted with a multitude of new demands and challenges. In order to prevent livestock from being attacked by wolves, shepherds have to ensure the protection of the herd. To do so, they often have to adapt their herding techniques, increase fencing and take care of protection dogs. In connection with the adaptation of herding techniques, nature conservation organisations and environmental agencies call for targeted pasture management and biodiversity promotion through extensive grazing. Additionally, gamekeepers and hunters demand that herd protection measures do not unnecessarily disturb wildlife populations. Some understanding of wildlife management is now also part of the herders' repertoire. The tourism industry demands that hikers and cyclists can enjoy the mountains undisturbed. In order to avoid conflicts with protection dogs, signs are to be erected and educational work carried out. So, also the shepherds' communication skills are challenged on the alpine pastures.

Therefore, in the second field of investigation of the project *Knowledge Transfer on Coadaptation between Humans and Wolves in the Alpine Space*, the structural and content-related requirements of a cross-border shepherd organisation in the Alpine space were examined (see also chapter 3.2). Moreover, the survey sheds light on the reputation of shepherds in society, the representation of shepherds in politics and public perception, their satisfaction with employment conditions and accommodation. The following chapter is a summary of the original report and omits a detailed description of the interviews. The detailed report by Andrea Sulig and Esther Haesen in German language is also available on the website of CIPRA International.³¹

4.2.1 Where lies the potential of a cross-border shepherd organisation?

Based on the interviews, a potential of a cross-border shepherd organisation was located in the following five areas:

1. Public relation efforts with regard to the profession of shepherds

With regard to public relations, a cross-border shepherd organisation certainly seems to make sense, as most shepherds express a very similar assessment of the public perception of their profession (see report by Sulig/Haesen, section 3.1). Based on the interviews the following cross-border topics for public relations can be identified:

- to promote the profession as a demanding profession that requires a high level of qualification, especially towards agricultural organisations and farmers
- to educate the general public about the everyday work and challenges of shepherds
- to inform people that herding and nature conservation are not contradictory but rather that professional herding can be an important part of nature conservation
- to raise awareness on the role of grazing on alpine pastures and on pastoralism in general with regard to local value creation and regional economic cycles

2. Establishment and further development of professional training for shepherds

A central component for the recognition of the profession of shepherds is the design, establishment and further development of professional training for shepherds. While there are established training and education programmes for shepherds in France and Switzerland, they are still being developed in Austria, Bavaria and South Tyrol. A cross-border shepherd organisation could play an important role in the development of new training opportunities and by providing information on existing opportunities.

³¹ <https://www.cipra.org/de/cipra/international/projekte/laufend/wissenstransfer-zur-koadaption-von-mensch-und-wolf-im-alpenraum>

3. Exchange and networking between shepherds

The shepherds interviewed expressed a fundamental interest in exchange and networking between shepherds from different countries (see report by Sulig/Haesen, section 3.5). A cross-border organisation could be active in this regard as an organiser of festivals, conferences and excursions.

4. Representation and advocacy of the interests of shepherds

Networking and exchange between shepherds are the basis for a cross-border shepherd organisation to realise its potential as a legitimate representation of their interests. This is because the shepherds interviewed from all countries feel that they are poorly represented politically or not represented at all (see report by Sulig/Haesen, section 3.2). However, such a voice is indispensable to achieve better employment conditions and an improvement of the partly precarious accommodation situation (see *ibid*, section 3.3). Additionally, a cross-border shepherd organisation could also represent shepherds who do not permanently live in the country where they work. Furthermore, with regard to the common agricultural policy of the European Union and the enactment of environmental regulations, a cross-border shepherd organisation could play a role in representing the interests of shepherds on a European level.

5. Contact point for questions about the rights and duties of shepherds

Finally, a cross-border organisation could also serve as a contact point for questions about the rights and obligations of shepherds. The shepherds interviewed reported on agreements that were not kept, on wages that were paid unofficially, on pension fund contributions that were not paid, and on uncertainties about who is actually liable if a guard dog or a mother cow were to attack tourists (see report by Sulig/Haesen, sections 3.3 and 3.6).

4.2.2 What can the organisational structure look like?

The question of a suitable organisational structure can hardly be answered based on the answers received in the interviews. The organisational form as “association” seems to be the most frequently chosen one around the topic of pastoralism. Whether alternative organisational forms such as unions, foundations, non-profit limited liability companies, cooperatives or others were also considered was not answered in the study. In order to clarify the question of the organisational structure for such a cross-border shepherd organisation, the intentions and requirements for such an organisation must first be defined.

4.2.3 Who are the target groups?

The primary target group of a transboundary shepherd organisation should in principle be, naturally, shepherds. However, in view of the current situation surrounding the return of large predators, it is probably advisable to focus on shepherds herding small livestock for the time being. It also has to be considered that “the shepherds” is not a homogeneous group. Pastoralists with an agricultural or rural background will have different expectations of a cross-border pastoralist organisation than career changers from other professional fields. A shepherd organisation should be open to all shepherds regardless of their background and offer services according to their different needs. Another very important target group are farmers. Ideally, a shepherd organisation is not perceived as a competitor by farmers, but as a valuable contact for issues related to shepherding. Constructive cooperation is desirable as farmers are the direct employers of the shepherds. Secondary target groups are politics, administrations and the general public. In order to be able to pursue its goals consistently and in the long term, a pastoralist organisation will depend on the support of these target groups.

4.2.4 Challenges, first Recommendations and Open Questions

4.2.4.1 Legitimation

In order for a cross-border shepherd organisation to develop its potential it will have to face the question of its legitimacy. In France, there have been shepherds' associations for decades that deal with the issue of shepherding with a focus on sheep and advocate the concerns of shepherds at regional and sometimes supra-regional level (see final report, section 3.4 and table I in the appendix). In Switzerland, there is no explicit association for shepherds of small livestock, but there are also various organisations for alpine pastoralists, even if most of the members in these organisations handle cattle. In South Tyrol and Austria, the first shepherd organisations are currently forming at regional level. On an international

level, for example, the organisations Pastoralisme du Monde and European Shepherds Network (ESN) are already striving for a cross-border exchange between shepherds. But both organisations only focus on parts of the identified potentials of an international shepherd organisation. Moreover, the ESN is an association of professional shepherds and not of seasonal pastoralists as they are common in the Alpine region. While synergies with existing cross-border organisations are partly possible and make sense, the potentials described above are currently not covered by any organisation. This would require significant changes in the basic orientation of the existing organisations. The foundation of a new cross-border shepherd organisation therefore seems to make sense in order to realise the above-mentioned potentials. However, such a newly founded organisation must be perceived by the existing regional organisations as a legitimate partner at the supranational level. This brings us to the next challenge for a cross-border shepherd organisation.

4.2.4.2 Transboundary and yet very close. Is it possible?

With regard to a cross-border shepherd organisation several shepherds point out that such an organisation must be adapted to the local and regional needs of the shepherds. The opinion of an interviewed shepherd can be cited here as representative of the assessment of her colleagues from the surrounding countries: the shepherd explains that the French shepherds have not grouped themselves by mountains or mountain ranges without reason. Depending on the region, the shepherding techniques, the problems and also the partners with whom an organisation has to cooperate are different. In addition, the pastoralist profession is strongly oriented towards the local level and new initiatives usually emerge from the local context. A cross-border pastoralist organisation has to face the question of whether and how it can work competently and close enough to the grassroots level in many different places without losing the big picture.

4.2.4.3 Is a voluntary basis realistic?

The following points are perceived by the interviewees as obstacles for existing shepherd organisations (see report by Sulig/Haesen, section 3.4): autonomy and individualism of members, geographical dispersion, difficult availability (in summer), lack of a central location for events, the voluntary engagement costs a lot of time and work, high turnover of practitioners, difficult consensus building in certain areas, farmers often misunderstand shepherd organisations as trade unions.

These points can also be applied to a cross-border organisation. In addition, in this case, language differences, greater geographical distances and higher costs to meet are aggravating factors (see report by Sulig/Haesen, section 3.7). For this reason, such a shepherd organisation should have a solid funding for three to four full time positions and an event budget for its activities. In contrast to a regional shepherd organisation, a cross-border shepherd organisation might have the advantage that it is more cost-efficient than many individual initiatives due to the transnational handling of common problems. Moreover, a transnational shepherd organisation could possibly apply for funding in several countries.

4.2.4.4 How can rights and duties of shepherds in different countries be covered?

The responses of the shepherds clearly show the need for a contact point for information on the rights and obligations of shepherds. This need confronts a cross-border organisation with the difficult task of having to deal intensively with the legal situation in several countries. At least in the initial phase of a cross-border shepherd organisation, this could be a labour- and cost-intensive undertaking.

4.2.4.5 Do not forget the farmers!

A shepherd organisation, whether regional or cross-border, faces the challenge of convincing farmers of the value of qualified shepherds. Some shepherds are very aware of this. Farmers need to realise that it is worthwhile to employ trained shepherds and that they benefit from creating employment conditions where shepherds keep coming back to them for several years.

4.2.4.6 Political activity of a cross-border shepherd organisation

A transboundary shepherds' organisation that tries to fulfil the potentials listed above is a political organisation in the sense that it represents interests in society. It will inevitably have to take a stand on political issues such as the return of large carnivores. In view of the highly emotionally charged discussions, we recommend that a transboundary shepherds' organisation should take a depolarising

stance in this discussion. The basis for such depolarisation lies in neither advocating an eradication nor an absolute protection status of these animals. The aim of a transboundary shepherds' organisation should be to be perceived as a fact-oriented and competent partner - not only, but also on the issue of large carnivores - independent of any political party.

4.2.4.7 Further considerations

The situation in the alpine countries differ considerably. A transboundary shepherds' organisation faces the challenge of responding in a targeted and constructive way to the situation in each country while also recognising and addressing cross-border needs. In addition, there is the danger that local pastoralist organisations could perceive a transnational pastoralist organisation as competition. However, the different situations in the respective countries should by no means be perceived as purely negative. Austria, South Tyrol and Switzerland in particular could probably benefit greatly from the experience of their french colleagues in building up associations and unions. In return, the french shepherds could benefit, for example, from a cross-border representation of interests for shepherds or from increased public relations work on the profession itself.

Bridging seasonality is probably one of the biggest challenges facing anyone who wants to work as a shepherd in the long term. There are hardly any professions that can be abandoned for four months each year and then to be returned to easily. Is a shepherd organisation that is involved in the design and development of professional training also responsible for looking for job opportunities in winter? Or do people who enter the profession of shepherding have to accept the circumstances created by seasonality, just as an apprentice chef has to accept that a chef's working hours are mostly in the evening? Are the efforts of a shepherd organisation to achieve an extensive professionalization of pastoralism not in vain, if it does not help the shepherds to find employment for the winter months as well?

With increasing demand for well-trained shepherds due to the return of large carnivores, the wage gap between Switzerland and the surrounding countries could become a problem. There is a risk that although actors in the various regions will make efforts to train shepherds for their pastures, the trained shepherds will subsequently migrate to Switzerland to work. A cross-border shepherd organisation could help to prevent this problem by campaigning for similar employment conditions across countries. Even if the wages in Switzerland will remain better than in the surrounding countries, one can probably expect that with an upgrading of the accommodation, better equipment and improved employment and wage conditions (taxes, unemployment and pension fund, etc.) for shepherds in South Tyrol, Austria and France, the wage alone will no longer be the decisive criterion for choosing an alpine pasture.

4.2.4.8 Representativeness of the study

It is important to mention that the results presented here only give a somewhat distorted picture of the overall situation. The shepherds contacted for the interviews certainly belong to the extroverts among the shepherds, and there are also shepherds who are not prepared to give their opinion directly to strangers. Finally, there are also many shepherds who are satisfied with the status quo. These do not appear in our analysis either. In the medium to long term, a cross-border pastoralist organisation should strive to include the views of these pastoralists also. The comparison between the more dominant opinions in a shepherd organisation and the opinions of the more reclusive shepherds or the opinions of shepherds who are satisfied with the status quo could serve as an important compass for a shepherd organisation to find a moderate path.

4.2.5 Conclusions

In France, Austria, South Tyrol and Switzerland, there is a clear need among the shepherds interviewed for a stronger organisation. In Austria and South Tyrol - and also in France, where there are already various shepherd associations - the founding of new, local ones can be observed. However, the shepherds interviewed have reservations about a transboundary shepherd organisation that is intended to promote more than just cultural exchange between them. At the same time, our research shows that such an organisation has great potential. The shepherds from France, Austria, South Tyrol and Switzerland all face very similar problems. A cross-border shepherd organisation could help to raise awareness for the profession across countries, advocate for cross-border vocational training, promote exchange, and networking between shepherds. Furthermore, it could act as a coherent and professional representation of shepherds' interests and be an independent contact point for questions about

shepherds' rights and duties. Despite the difficult initial situation, we recommend that the establishment of a cross-border shepherd organisation should be tackled for the benefit of the sheep, goats, cattle and cows, and of course, also for the benefit of those who herd them. The first step in this direction is to clarify the following questions:

- 1) How is it possible to work as a transboundary shepherd organisation in different regions in a grassroots and competent way and at the same time to stand up for the concerns of the shepherds on a supranational level?**
- 2) What structural requirements must such an organisation fulfil in order to be able to consistently pursue its goals?**
- 3) Should a transboundary shepherd organisation limit itself to technical issues and deliberately refrain from taking political positions?**
- 4) Is it possible to finance several jobs for the organisation in order to ensure constant support?**

5 General Conclusions and Outlook

5.1 General Conclusions

Departing from the knowledge that the protection status of the wolf is a given fact in the Alpine countries due to the according international treaties and directives, and that we should not expect a change in the near future, the following issues derived from the over 30 interviews made for this report are to be tackled more better, wiser and quicker:

- Communication with the wider public: public authorities should take communication concerning coadaptation issues of humans and wolves into their hands (and not leave it to other organizations and institutions), have a professional approach and keep a proper distance to populist and emotionalizing attitudes. Fact based, calm, well informed and transparent communication is needed in order to build trust, spread factual knowledge and counteract instrumentalization of the issue.
- Part of this communication has to be education on the realities of predation, of pastoralism and of mountain farming in general (which, of course, are intertwined). Especially the additional effort of protection measures (workload, financial effort, new practices like the keeping and management of protection dogs) is not known to the wider public. Here also the active involvement of the touristic/recreational sector is needed.
- The profession of shepherding is more important than ever since the return of the large carnivores. Professionalization in education, training and networking/lobbying is needed in the Alpine regions, also to enhance social reputation and financial remuneration of the profession as such.
- Monitoring activities concerning wolf populations in the Alpine regions are very heterogeneous. Transregional or transnational monitoring activities are still an exception and should be harmonized and substantially expanded. At the same time, the local population (hunters, shepherds, farmers etc.) should be integrated into monitoring activities in order to prevent mistrust.
- Herd protection is the key to coadaptation and to a functioning relation of humans and wolves in the Alpine space. The implementation of herd protection measures - especially the deployment of protection dogs - is a complex and ever ongoing learning process for all involved stakeholders (administration, farmers, shepherds, politicians, tourists, hunters, game wardens etc.) and therefore must be tackled as early and as seriously as possible. Knowledge transfer, financial support, training, education, and scientific support need improvement in most countries.

In order to use resources wisely for the above mentioned actions and to quicken up the process of coadaptation everywhere a transboundary approach is recommended highly - meaning the cross border exchange of knowledge. Borders in this case are regional and national borders but also disciplinary borders between e.g. science, agriculture and politics. Coadaptation processes in the Alpine space have been very heterogeneous, as is already mentioned on the first pages of this report and has been further confirmed now. Therefore, the exchange of knowledge, be it peer-to-peer exchange, conferences, workshops on conflict communication or on setting up electric fences etc., is crucial for making progress in an alpine wide coadaptation strategie, for saving resources and for speeding up learning processes. The importance of such exchange has been highlighted throughout all the interviews conducted and all interviewees showed a lively interest in learning from their foreign colleagues. It can be safely stated that a well prepared transfer of knowledge across borders saves time and money. One of the few prerequisites being a willingness to learn.

Additionally, with great respect to the heterogeneity of the Alpine space and the different strategies adapted in order to tackle the challenge of coadaptation, in all countries the same underlying structural changes emerge: the rapid change of agriculture itself, the shrinking number of individual mountain farms and people working (full time) in agriculture and the subsequently growing distance of more and more people from the actual agricultural context. The return of the wolf exacerbates these developments and resulting conflicts and actually helps spotlighting them, as has been mentioned throughout the interviews. The agro-pastoral system is not very competitive on an aggressive, growth-oriented global market and gets mutilated and simplified by its mystification and its exploitation by other industries like tourism. Therefore, we urgently need to have honest debates on the underlying issues that affect all alpine countries. The wolf actually helps us to focus on these issues and to develop visions for the future of mountain farming and pastoralism.

5.2 Outlook and Implementation Project

This report is the result of a preparatory project as described in the section "Intentions and Objectives of the Project" (p. 3 - 5). For the implementation project the following challenges have been identified:

- a) Awareness raising for and strengthening of the pastoral profession in the Alpine Space: Preparation of the decision-making basis ("Field Analysis") for the implementation of a "cross-border pastoralist organisation" in the Alps.**

In the preliminary project, a study was carried out to investigate the potential and the obstacles to the establishment of a transboundary organisation to address the concerns of shepherds in the Alpine region. The main task of this study was to investigate the structural and content-related requirements that a transnational platform or organisation for pastoralists (especially shepherds) would have to fulfil (see p. 39 - 42).³² The results of the study form a "condensed vision", which is now to be further deepened through a field analysis with the objective of creating a basis for decision whether and how such an organisation should actually be implemented and founded. The "environment" addressed here is very complex, as it extends across all Alpine countries, comprises a very heterogeneous, hardly structurally organised and additionally seasonal (and partly cross-border) working professional group. The professional group of shepherds/herders is strongly characterised by the autonomy and individualism of its members, there is a large geographical dispersion, difficult accessibility (in summer), a high intra-professional fluctuation and an intrinsic dependence on the agricultural sector as an employer.

In a field analysis, the chances of realising a transnational form of organisation are to be examined in more detail, so that a basis for decision-making is finally available on whether to tackle this undertaking concretely or to drop it. It should be possible to assess the critical success factors, possible ways of medium- to long-term financing should be apparent and possible forms of organisation should be described and evaluated.

³² The complete study can be found on the website of CIPRA International www.cipra.org.

b) Communication measures: taking into account measures concerning the general public and specific measures for conflict communication of certain stakeholders (herders, hunters, gamekeepers, administrative staff, etc.).

The challenge of communication pops up throughout the whole report in different contexts. It is considered very important but often neglected, within both the stakeholder groups concerned and concerning the wider public. The objective here would be to de-romanticise as well as de-demonise the wolf and set the focus, among other things, on the underlying challenges and problems. This means understanding the relationship between wolves and humans in a more constructive and complex way and counteracting black and white images. Ambivalence and intermediate positions are to be pointed out and worked with. Furthermore, an attempt will be made to develop communication spaces in which the more fundamental things are dealt with, for which the wolf is often only used as a proxy or scapegoat. Furthermore, the potential of ironic, satirical and/or comic media will be uncovered to address the topic itself but also the fundamental problems behind it. In this way, a humorous approach that is not quite as close to reality is chosen, which reveals certain positions and the inherent motivations and allows them to be viewed anew.

In addition, "concept workshops" with different actors are planned because terms are used differently by different groups. In order to shed light on how "the other" understands terms and where differences and similarities lie, these "workshops" are to take place as experiments in different contexts. They help to soften prejudices, shed light on their origins and dissolve supposed opposites (e.g. city - countryside, wolf opponents - wolf "cuddlers", civilisation - wilderness, etc.).

Turning the glance from the wider public to the stakeholders "in the field", a very different challenge for communication arises: communication in conflict-laden situations.

In the densely populated Alps, which are intensively used for tourism, recreation and agriculture, the often conflict-laden clash of different groups of people with their wishes, needs and ideas is very common. Especially with regard to the different forms of land use, an increase in conflicts can be observed. In relation to the conflict between wolves and humans, this could be, for example, hikers or mountain bikers who are on the move in alpine pasture areas protected by guard dogs. Here in particular, conflicts have increased considerably in recent years, which was clearly discussed in the interviews conducted during the preliminary project. However, conflicts also occur time and again among and between other stakeholders, such as area managers of nature reserves, farmers, hunters, scientists or foresters, and with parts of the general population.

The most frequent conflict situations are to be researched, enquired about and collected. The participants describe the situation and why it went well or badly in their eyes. From this, short films are made in a re-enactment, which show possible approaches to handling the difficult situations based on the various examples and also refer to the psychological and sociological backgrounds (e.g. processes we group dynamics, cognitive distortion - in-group/out-group bias, self-distancing, etc.). The collection includes best practice examples or alternative suggestions for learning new ways of communication. These "video guides" can be subtitled and made available throughout the Alps. The objective is to teach practical techniques paired with valuable theoretical background knowledge to communicate in a de-escalating and competent manner even in difficult situations and to find constructive discussions and solutions with those involved. The target group consists of practitioners that are often exposed to conflicting situations like shepherds/herders, hunters, game wardens, employees working in protected areas but also members of regional or local administrations.

We hope to have contributed to a constructive way of dealing with the coadaptation of humans and wolves in the Alpine space with this report, albeit it is just the result of a preparatory project. In any way, it offers a lot of insight into different coadaptation strategies (or their prevention) in different countries in the Alps and reveals what is working and what is not so far. It should be used as an aide for further developments towards alpine regions that deal constructively and collaboratively with the challenges they are confronted with concerning the return of wolves.

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Annex

Questionnaire for the Project:

Knowledge Transfer on the Coadaptation of Humans and Wolves in the Alpine Regions

Name:

Country/Region:

Institution/Function:

Other Information:

Date:

How was interview partner brought to attention of interviewer («organic network»):

1. **How would you describe your role - in general – when it comes to the issue of coexistence of wolves and humans in the Alpine region? How long have you been working on this topic and how did you come in touch with it?** (Warm-up question)
2. **When you think of all the time you have already spent in this role, the timespan you have been dealing with issues of coexistence: How has this process of coadaptation | getting along (co-adaptation/co-existence) developed or changed in the last 5-10-20 years? How did it change since the first appearance of the wolf in your region/country or since you observe the return of the wolf?**

3 levels: to dig deeper if necessary

- politically
- culturally and socially
- concerning herd protection and or scientific methods (of monitoring e.g.)

3. What do you think are the reasons for these changes?

- a. Changes of the political situation / the funding landscape
- b. Expansion of the wolves
- c. State of the art in science
- d. Changes in society

4. Which concerns are in your opinion in the foreground today regarding the coexistence of man and wolf? Which questions are you (in your region | your country) mainly concerned with?

5. What are in your opinion the most important experiences (but also perhaps lessons / learnings) from the last years/decades with the wolf / in the coadaptation of wolves and humans?

6. What is the "crux" or crucial issue that needs to be addressed now?

To dig deeper: For example, are there "gaps": Questions, issues that have not received enough attention in your region/country?

7. **What can you pass on / communicate to people in other regions/countries that deal with similar situations? What things should they do or at least consider? Do you have recommendations?**
8. **Do you also have any recommendations as to what should be avoided? Which mistakes in the coadaptation of wolves and humans being can be avoided?**
9. **Is there a question, a topic in the process of coadaptation where you would like to learn more about? Alternatively, is there a topic that you would like to discuss and dig deeper? If yes: with whom? (can be a person or e.g. a professional group)**
10. **Which people should sit down with which? Are there experts or (professional) groups who should exchange with each other in a new, more intensive or different way?**

What is important in such an exchange?

- a) (Interdisciplinary) exchange across professional boundaries, so that officials speak with farmers and shepherdesses, scientists with practitioners
 - b) exchanges on a specific topic
 - c) exchanges at specific locations, such as in a particular region, in the field (rather than in meeting rooms)
 - d) (Formats) To have an exchange in a certain way (large groups, small groups, exchange of experiences, workshops, technical presentations, ...)
 - e) Other...
11. **Who in your opinion could be another person who could provide information on the co-adaptation/coexistence of humans and wolves (in your region/country)? Who are good informants/interviewees in this respect – in the sense that they contributed significantly to the co-adaptation in their region/country or have many years of experience and an overview of the problems, challenges and solutions?**