
REPORT

Implementation of management options for the conservation of the Wolf in the Alps

**LARGE CARNIVORES, WILD UNGULATES AND SOCIETY WORKING
GROUP (WISO) of the Alpine Convention**

XVII ALPINE CONFERENCE



ALPENKONVENTION
CONVENTION ALPINE
ALPSKA KONVENCIJA
CONVENZIONE DELLE ALPI

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Introduction

In March 2016, the report: "*Wolf in the Alps – Recommendations for an internationally coordinated management*", was produced as part of the RowAlps (Recovery of Wildlife in the Alps) project, launched to support the Working Group "Large Carnivores, Wild Ungulates and Society" (WISO – Fauna and Society) of the Alpine Convention. This report contains in particular several recommended management options for the conservation of the wolf and the facilitation of its coexistence with human activities.

A questionnaire was circulated among WISO members between March 22 and April 14, 2022. The purpose was to find out which of the six management options were implemented by the authorities of those contracting parties.

The questionnaire consisted of 34 questions, including 20 closed questions (choice between different proposed answers) and 14 open questions (to be answered with the respondent's own words). The representatives of six contracting parties (Austria, Germany, Liechtenstein, Switzerland, Slovenia and France) answered to the questionnaire.

Based on the answers collected, the following document summarizes the implementation of management options for wolf among alpine countries.

Results of the survey

1. Secure sustainable damage compensation systems for livestock damages

Damage to livestock by wolves can be substantial. The acceptance of the species, and the cohabitation or coexistence with human activities and in particular with breeding, requires reducing and compensating for the impact of predation.

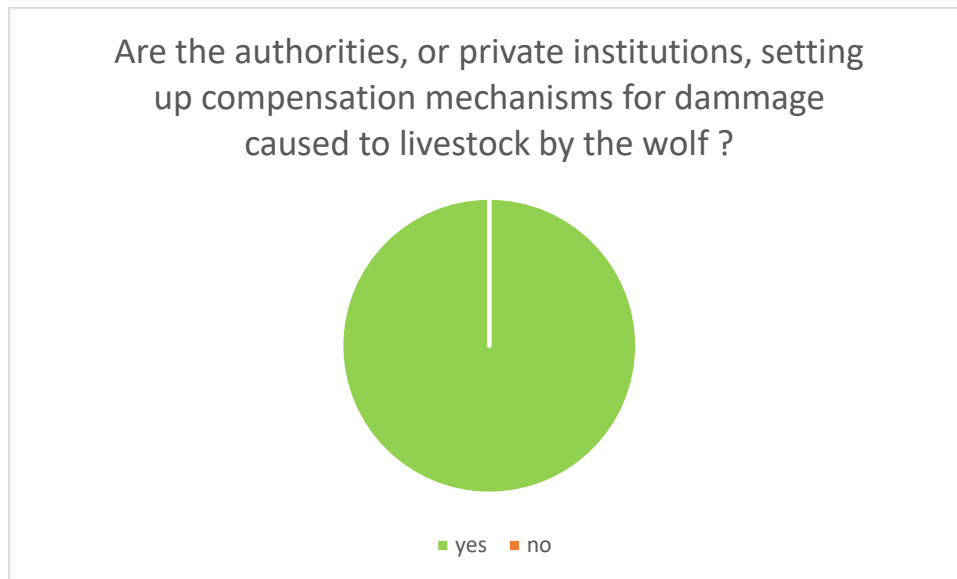


Figure 1; Answer to question 1

In the six contributing states, compensation mechanisms for damage caused by the wolf to livestock have been implemented.

In Slovenia, Liechtenstein, Switzerland and France, authorities compensate livestock damages according to current “official lists” **based on a legal obligation**.

In Germany and Austria, authorities compensate livestock damages according to current “official lists” **without any legal obligation**.

In Liechtenstein, according to the applicable law, all damage caused to livestock are compensated. The amount of compensation is in accordance with the official tables provided by the breeding associations of the type of livestock concerned. The amounts differ, for example purebred animals (herd book) are paid more than mixed breeds, or a dairy ewe is more valuable than a lamb.

In Slovenia, the authorities (Ministry of Environment and Spatial Planning) compensate for the damage caused by large carnivores if minimum protection measures are put in place. The damage is assessed by the Slovenian Forest Service.

France has set a regulatory scale according to which direct and indirect losses (proportionate to the cost of the direct losses) are compensated. Herds and apiaries are compensated on the condition of being previously subject to reasonable protection measures or being recognized as not eligible for protection. The species concerned (sheep, goats, horses, cattle) is taken into account in the scale, as well as the age and sex of the animal, and the kind of production (quality marks, organic production, etc.)

In Germany, the amount of the compensation is fixed by the authorities in charge of agriculture taking into account gender, age and special conditions (e.g. animal husbandry, organic farms, rare species). This system was set up in 2008 with co-funding by private institutions and modified in 2020 to complement state funding.

In Austria, there is no legal obligation to compensate for livestock damage inflicted by large carnivores. Every federal state does compensate livestock damage but regulations differ from state to state. The amount of indemnification follows official average prices when sold for meat or breeding, respectively. Some states (Oberösterreich, Steiermark) also calculate expected future economic losses, for example due to reduced breeding capacity after loss of a ewe.

	Secure sustainable damage compensation systems for livestock damages
CH, LI, SL FR	1. Authorities compensate livestock damages according to current "official lists" based on a legal obligation
DE, AT	2. Authorities compensate livestock damages according to current "official lists" without any legal obligation
	3. Private institutions compensate livestock damages according to current "official lists" without any legal obligation

Table 1; Implemented options to compensate for the damage caused by wolves to livestock

2. Secure sustainable damage prevention systems for livestock damages

Support for the protection of domestic herds faced with wolf predation aims at ensuring the sustainability of pastoral activity within the regulatory context of the protection of the wolf and the maintenance of the good conservation status of its population. It must contribute to the acceptance of the lupine species.

Breeders need to have access to various means of protection. The acquisition of one or more devices of protection of the herds constitutes an additional cost for the stockbreeders that can be the object of a financial compensation thanks to systems set up by the authorities.

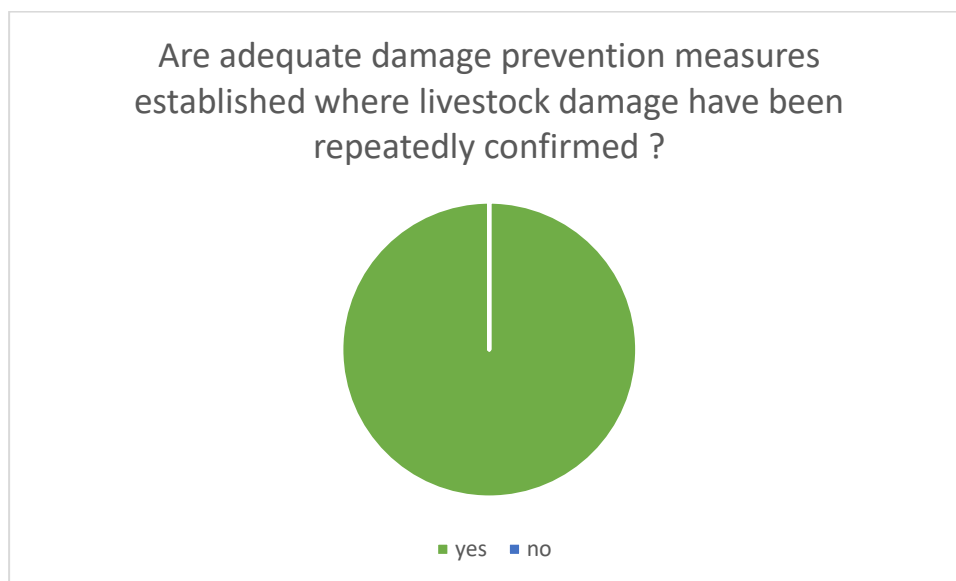


Figure 2; Answer to question 2

In the six contributing states, adequate damage prevention measures are in place where damage to livestock has been repeatedly confirmed (in Liechtenstein, there has been no cases of livestock damage so far).

In **Austria**, some administrations propagate livestock protection measures with restraint. The public debate concerning alpine pastures focusses on the implementation of wolf-free zones, as nearly all alpine pastures are judged as not defensible against wolf attacks by relevant stakeholders. Several protection measures are considered not feasible due to technical and legal constraints as well as the undue workload and costs they imply.

In Slovenia, Switzerland, Germany, Liechtenstein and France, the **payment of compensation is conditioned to the application of damage prevention measures**.

In Germany, in regions where wolf is regularly present more than 1 year, the implementation of "basic" preventive protection measures is necessary to benefit from compensation (e.g.

90cm electric fence or having livestock in pasture that could not be secured). As it stands, no financial support for the development of farming practices is provided.

In Slovenia, livestock needs to be protected with electricity (at least 1 electric wire). That is often not enough to protect livestock.

In Liechtenstein, the protective measures provided by law are fences, herd guard dogs, shepherds. The wolf management plan is currently being revised. It is intended to include a list of damage prevention measures considered reasonable at a more detailed level than the ones listed in the current legislation.

In Slovenia, Switzerland, Austria and France, **summer pasture farming systems need to be adapted to establish effective damage prevention measures.**

In Slovenia, EARDF can provide funding for the additional work needed for the installation of electric nets, livestock guarding dogs and shepherds. Adaptation is necessary to make the system more effective.

In Austria, two pilot projects are funded by the government of Tirol to test herding systems and night enclosures for sheep grazing on alpine pastures.

In France, the state can subsidize vulnerability analyses, fences, guard dogs so that breeders and shepherds adapt their practices to the presence of the wolf.

The adaption of summer systems has not been implemented yet in the **Liechtenstein** but is a medium to long-term possibility.

In the six states, authorities assist breeders for the implementation of damage prevention measures.

In Germany, administration of agriculture and administration of environment provide advice and assistance in the implementation of damage prevention measures.

In Slovenia, SFS gives advice on the way to protect livestock when damage cases occur.

Liechtenstein offers free theoretical and practical (on site) consulting for livestock owners.

In France, analysis of the vulnerability of farms are subsidized by the State, which can also finance experiments from the results of these analyses.

In Austria, general information on methods of livestock protection is provided by the Österreichzentrum Bär Wolf Luchs and on websites of some administrations. The installation or upgrading of fences against wolf attacks and advice on livestock protection is funded in several states up to 80 % of the investment costs. The Österreichzentrum Bär Wolf Luchs is partner of the LifeStockProtect project.

	Options implemented to prevent wolf damage to livestock
SL, LI, FR, CH, DE	1. Link compensation payments to application of damage prevention measures
SL, CH, FR, AT	2. Adapt summer systems in order to establish effective damage prevention measures

SL, LI FR, CH, 3. Secure mechanisms for the advice on and assistance in implementing damage prevention
DE, AT measures by institutions in charge

Table 2; Implemented options to prevent wolf damage to livestock

3. Foster dialogue among authorities, with wildlife managers, hunters and foresters

The conservation of the wolf require the support of the citizens and in particular of the actors concerned by the subject.

Taking legislative measures alone is not enough to guarantee the good conservation status of the wolf. The participation of stakeholders in the process of developing conservation plans, and in their implementation, is essential.



Figure 3; Answer to question 3

In the six contributing states, information and consultation mechanisms about the wolf have been set up to promote **dialogue between the authorities, wildlife managers, hunters and foresters.**

In the **six states, round tables and workshops** are implemented to foster **dialogue between authorities and interest groups.**

In France, Austria and Slovenia different forms of participation in pilot regions are conducted, and the results in terms of best practice projects are evaluated.

In Slovenia, Switzerland and France, authorities develop and **implement guidelines** on the way to **integrate the presence of wolves in the management of ungulates and forests,** based on consultations with interest groups.

In **Slovenia, Liechtenstein, Switzerland and France, appropriate units for the management of wolves, ungulates and forests**, within national and transboundary borders are in operation.

Slovenia, Liechtenstein, Switzerland and France enable and promote **factual communication within the group**.

In **Slovenia and France**, regular **systematic public surveys are undertaken to assess and refine the work with interest groups and the general public** ("social monitoring")

Slovenia is preparing **strategic documents about the wolf**. They are prepared in such a way that all stakeholders are invited to participate in the process. **Workshops are organized and all stakeholders are invited**. A public opinion survey was carried out. Workshops with hunters were organized to create measures to take the wolf into account in the management plans for ungulates.

Liechtenstein provides stakeholders with the possibility to make statements on changes of legislation and management plans concerning wolf management. When necessary, discussions, round tables etc. are organized to work together on detailed issues.

In **Germany**, a Bavarian Working Group for Large Carnivores has been set up and meets approximately once a year. At district level, round tables are organized on request with the main stakeholders (administration, interest groups).

In **France**, a national wolf group (GNL), and a national action plan (PNA) on wolf and breeding activities, have been set up. The GNL associates representatives of the government (local and national administrations), of hunters, of agricultural professions, of environmental protection associations, elected officials, etc. It meets several times a year. Working groups on different subjects are set up according to current events or according to the requests of the GNL.

Similar committees are set up in each department concerned by the presence of the wolf.

Regular communications are made to the GNL, or to local elected officials, etc., on subjects relating to the wolf and coexistence with human activities. The prefect of the Auvergne-Rhône-Alpes region is the coordinating prefect for the implementation of the policy relating to the wolf in France: the website of the Regional Directorate for the Environment, Planning and Housing in the region Auvergne-Rhône-Alpes contains an information section dedicated to the wolf. The websites of the prefectures of the departments concerned by the presence of the wolf also contain information on measures to protect flocks, etc...

The French Office for Biodiversity (OFB), a public establishment, has a "large predators" department, which steers and leads the "wolf-lynx network" which monitors the wolf population and provides information on its state of conservation, based on various presence indices, genetic analysis, etc. within the framework of a scientific and globally recognized monitoring protocol and method. An estimate of the number of wolves is produced annually at the end of each winter; an estimate of the number of packs is made at the end of each summer. These two estimates also provide information on the spatial evolution of the wolf. Naturalists, hunters,

breeders, park staff, volunteers etc. can participate and supply presence indices to the "wolf-lynx network" after compulsory training.

In Austria, the Österreichzentrum Bär Wolf Luchs has been established in 2019. The aim of this association of the administrations of the nine states and two national ministries (agriculture, environment) is to further develop the management of large carnivores in Austria. Stakeholder organizations and research institutes take part in the discussions as additional members in general meetings and specific working groups.

In Vorarlberg a board formed by the state administration and interest groups (Koordinationsgruppe Großraubwild) provides information on large carnivores and facilitates the coordination of management actions.

The government of Tirol has initiated two projects to investigate the practical consequences of shepherding in the setting of Tyrolian alpine pastures.

	Options taken to foster dialogue among authorities, with wildlife managers, hunters and foresters by establishing information and consultation mechanisms about the wolf
SL, LI, FR, CH, DE, AT	1. Establish round tables and workshops to encourage dialogue among authorities and interest groups
SL, FR, AT	2. Establish different forms of participation in pilot regions and evaluate outcome in terms of best practice projects
SL, CH, FR	3. Based on consultations with interest groups, authorities develop and implement guidelines on the way to integrate wolf presence into ungulate and forest management
SL, LI, CH, FR	4. Create suitable units for wolf, ungulate and forest management within the national and cross-border borders
SL, LI, CH, FR	5. Enable and foster fact-based in group communication
SL, FR	6. Undertake regular systematic public surveys to evaluate and refine work with interest groups and broad public ("social monitoring")
SL	7. Other

Table 3; Implemented options to foster dialogue among authorities, with wildlife managers, hunters and foresters by establishing information and consultation mechanisms about the wolf

4. Integrate local people in the wolf monitoring

Beyond the actors directly concerned by the presence of the wolf, or predation, the involvement of local populations is an important factor for the acceptance of this species. The inhabitants who share their territories with the wolf can also directly contribute to knowledge of the species and to research by sharing their observations and their knowledge. They can thus anchor, in the territories, information intended for a wider audience.



Figure 4; Answer to question 4

In the six contributing states, measures are taken to integrate local populations in the wolf monitoring.

Slovenia, Germany, Liechtenstein, Switzerland, Austria and France involve local stakeholders, e.g. hunters, foresters and nature enthusiasts in wolf monitoring.

In Germany, a network of volunteers made up of different interest groups (hunters, foresters, conservationists) is formed to document possible evidence of wolf presence (e.g. sightings, tracks, kills).

In Slovenia, howling is part of wolf monitoring. It is carried out with interested volunteers. In addition, foresters and hunters participate in the collection of genetic sample.

In Liechtenstein, the general public as well as interest groups are encouraged to share evidence or suspicions of the presence of the wolf. The Environmental Bureau communicates its findings, for example the identification of individuals to the general public.

In Austria, any endeavour to collect information on wolf presence in an area relies on the cooperation with local hunters and landowners. In some states local hunters have been designated as "Rissbegutachter" (kill inspectors) trained to investigate game carcasses and

other items of suspected wolf evidence. Officials of hunting organizations are involved in the monitoring activities in most states.

France is developing an incentive system for the documented presence of the wolf at regional or municipal level. After completing compulsory training, any person, whatever its profession, and including hunters, can participate in the "wolf-lynx network", which, under the management of the OFB and according to a recognized scientific method, assesses the presence and number of wolves in France. Clues of all kinds – photo shots, hair, faeces, urine, blood, etc. – are collected and analysed by the OFB, then validated or invalidated. Induced howling sessions are also organized, as well as genetic monitoring.

At the end of 2021 and 2022, the OFB has increased and continues to increase training sessions for new members of the wolf-lynx network, in particular for hunters and breeders.

	Options taken to integrate local people in the wolf monitoring
SL, LI FR, CH, DE, AT	1. Involve interested people at local level, e.g. hunters, foresters and nature enthusiasts in the monitoring of wolf
FR	2. Authorities develop an incentive system for the documented presence of wolf at regional or communal level

Table 4; Implemented options to integrate local people in the wolf monitoring

5. Prevent and prosecute illegal action through law enforcement

Illegal killing is a threat for wolf in Europe and can have a severe effect on local populations of the species. However, environmental crimes are usually not a priority in law enforcement.

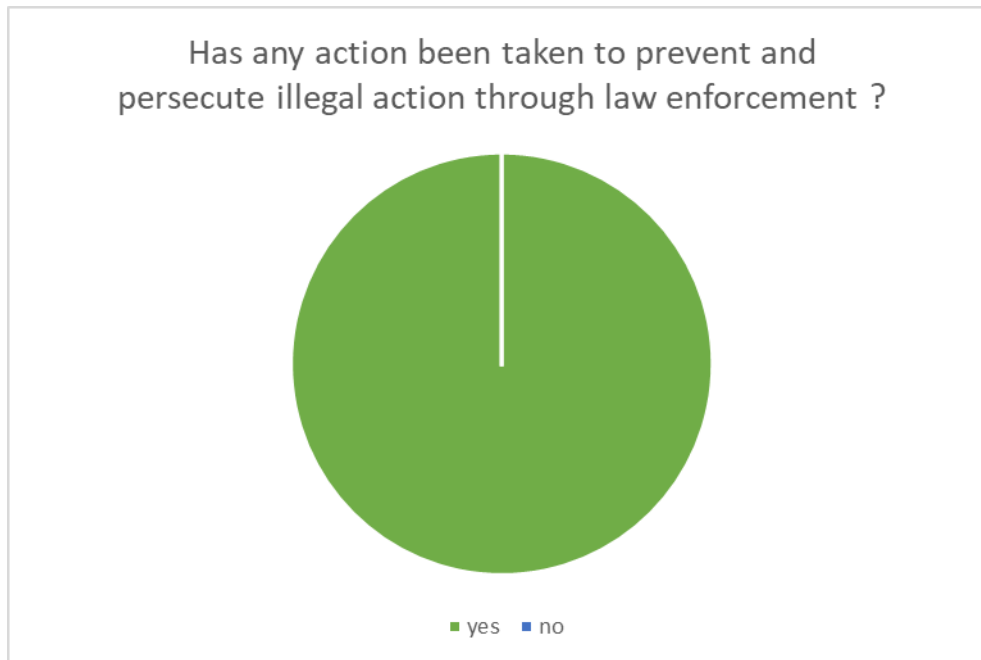


Figure 5; Answer to question 5

In the six contributing States, measures are taken to prevent and prosecute illegal actions through law enforcement.

Liechtenstein, Switzerland and France establish or strengthen **corps of independent state-employed rangers and game wardens.**

Slovenia, Germany, Austria and France sensitize the police, prosecutors and judges to the illegal mortality of protected species.

Liechtenstein, Germany, Switzerland, Austria and France secure and guarantee professional investigation methods.

Liechtenstein, Switzerland, Austria, France and Slovenia enable and encourage interest groups to fight against illegal actions.

In Liechtenstein, with the recent change of hunting law, **a second game warden** for the country has been approved.

In Germany, work is being done on joint **adaptation and improvement of the treatment concept for illegal killing** of large carnivores and specially protected species.

Slovenia hunting association is educating the police officers, hunters and foresters on the way to proceed in case of detection of illegal killing.

In France, awareness is raised among prosecutors, and the penalties incurred in the event of the destruction of a protected species are known. The French government files a complaint in the event of illegal destruction of wolves. The OFB is regularly called upon by prosecutors to participate in investigations in support of the police and/or the gendarmerie.

In Austria, within Action A3 of the Life WolfAlps EU project workshops are planned for the transfer of best practices of anti-poaching activities in the Italian Alps to Austria (and Slovenia). Moreover, departments of environmental crime investigation do investigate poaching cases. Finally, a project against wildlife crime, funded by national funds and coordinated by WWF Austria, will start in spring 2022 having the focus on birds of prey and large carnivores.

	Options taken to prevent and prosecute illegal action through law enforcement
LI, FR, CH	1. Establish or strengthen corps of independent state employed rangers and game wardens
SL, DE, FR, AT	2. Raise awareness within police, state attorneys and judges regarding illegal mortality of protected species
LI, DE, CH, FR, AT	3. Secure and guarantee professional investigation methods
LI, CH, FR, AT, SL	4. Enable and encourage interest groups to address illegal actions

Table 5; Implemented options to prevent and prosecute illegal action through law enforcement

6. Control of wolf-dog hybrids and domestic dogs

The KORA report indicates that, as there are fewer stray dogs in the Alps compared to other parts of Europe, the risk of hybridization is considered as low for the Alpine Wolf population. Nevertheless, as hybridization has been detected in nearby wolf populations (e.g. the Apennines), this issue needs to be addressed.

In December 2014, the Standing Committee of the Bern Convention adopted a recommendation on the way to solve the problem of hybridization between wolves and domestic dogs. The options reflect the content of this recommendation.

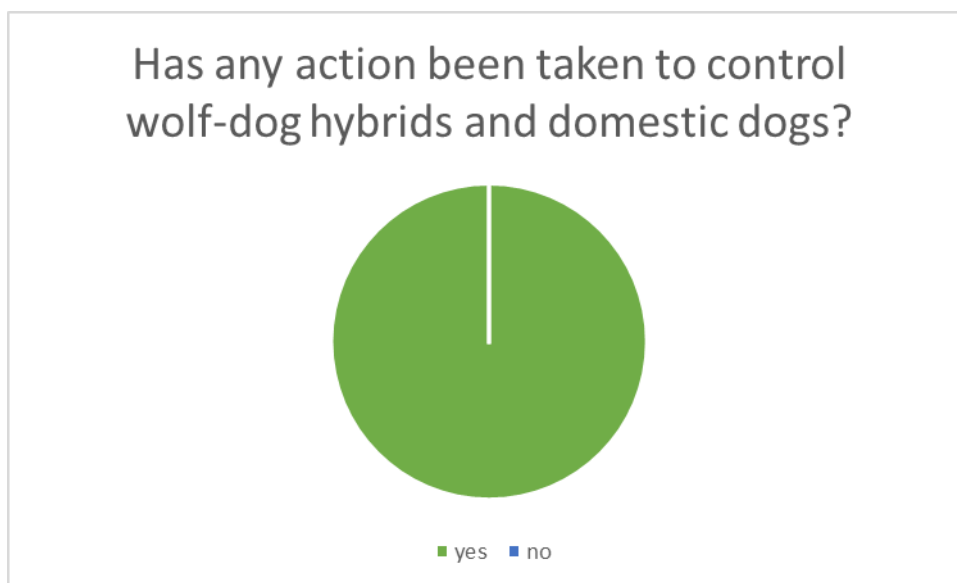


Figure 6; Answer to question 6

The six contributing States take steps to control wolf-dog hybrids and domestic dogs.

In Slovenia, Germany, Liechtenstein, Switzerland and France, authorities control, prohibit or restrict the keeping of wolves and wolf-dog hybrids as pets. **France** indicates that it is not taking any other measure because the genetic analysis regularly carried out show that hybridization this is not a significant problem in France.

In Liechtenstein, Austria, Switzerland and Slovenia, authorities encourage the detection of free-ranging wolf-dog hybrids by establishing effective surveillance systems.

In Liechtenstein and Austria, the authorities entrust the elimination of wolf-dog hybrids to State bodies.

No state claims to establish specific measures to prevent wolves from being killed intentionally or by mistake as wolf-dog hybrids (wolf-dog hybrids have the same protection status under the Bern Convention as the wolf).

In Germany, authorities control the detention of wolves and wolf-dog hybrids. Mainly genetic monitoring can reveal possible hybrids in the wild. Elimination of hybrids is possible (see Bavarian wolf action plan).

In Slovenia, official permissions are given for lethal removal of hybrids from nature.

In Liechtenstein, the keeping of wild animals is subject to a permit in accordance with the legislation in force. The Liechtenstein Veterinary Office (Amt für Veterinärwesen und Lebensmittelkontrolle) is the executive authority in this case. This control allows the identification of hybrid individuals. **In the wild, hybrid detection is linked to DNA sampling** (saliva, feces, tissues) which **is part of wolf monitoring**. The **elimination** of wolf-dog hybrids **is provided for in the Liechtenstein Wolf Management Plan** (Konzept Wolf Liechtenstein). <https://www.llv.li/inhalt/118450/amtsstellen/wolfsmanagement-umgang-mit-dem-wolf>

In Austria, the genetic monitoring is maintained by all states and coordinated by the Österreichzentrum Bär Wolf Luchs. The laboratory in charge is prompted to detect wolf-dog hybrids. Moreover, the national recommendations concerning the wolf management advises the relevant authorities to mandate the removal of confirmed wolf-dog hybrids.

In France, the genetic analysis carried out during the monitoring of wolves (estimate of the number of wolves, health status, etc.) show that today **the phenomenon of hybridization does not constitute a significant problem**. If these analyses were to demonstrate the need to implement specific measures, the French government would then act accordingly.

	Options taken to control wolf-dog hybrids and domestic dogs
SL, DE, LI, CH, FR	1. Authorities control, prohibit or restrict the keeping of wolves and wolf-dog hybrids as pets
LI, CH, AT, SL	2. Authorities promote the detection of free-ranging wolf-dog hybrids by establishing effective monitoring systems
LI, AT	3. Authorities entrust state bodies with the removal of wolf-dog hybrids
	4. Authorities establish measures to prevent wolves from being intentionally or mistakenly killed as wolf-dog hybrids (wolf-dog hybrids have the same protection status in the Bern Convention as the wolf)

Table 6; Implemented options to control wolf-dog hybrids and domestic dogs

7. Implementation of management options in the near future (within the next five years)

Despite the diversity of situations faced by wolf management in the Alpine countries, the RowAlps project has identified a set of general management options for the entire alpine wolf population. Although there may be regional and national variations in the priority of implementation of these management options, proposals for pan-Alpine priorities in time and space are needed.

1. Secure sustainable damage prevention and compensation systems for livestock damage.

In Germany, although this is already **done**, it will be **improved and adapted**. **In Austria**, it is beyond dispute that **the competent state administrations will continue to provide compensation systems** in the next years. This was recently underlined by a working group of the Österreichzentrum Bär Wolf Luchs tasked with elaborating up-to-date recommendations for compensation payments. **The four other states will continue to apply these measures.**

2. Foster dialogue among authorities, with wildlife managers, hunters and foresters by establishing information and consultation mechanisms regarding the wolf.

In Germany, although this is already **done**, it will be **intensified according to rising wolf presence**. **Liechtenstein, Switzerland and France** will **put it in place or continue to practice it**. **Austria** indicates that **the Österreichzentrum Bär Wolf Luchs will continue to play a central role** in the further development of the wolf management.

3. Integrate local people into wolf monitoring

Germany indicates that **this should be maintained at the current level**. **Slovenia, Liechtenstein, Switzerland and France** will **put it in place or continue to practice it**. In **Austria**, within a project supported by rural development funds, a working group formed by members of the Österreichzentrum Bär Wolf Luchs will evaluate and propose refinements to the current monitoring system. **The involvement of local hunters, foresters and land owners will be promoted.**

4. Prevent and prosecute illegal action through law enforcement

Germany indicates that it is moving towards a progressive conceptual development: they are **adjusting and implementing law enforcement**. **Slovenia, Liechtenstein, Switzerland and France** will **put this action in place or continue to practice it**.

5. Control of wolf-dog hybrids and domestic dogs

Slovenia, Liechtenstein, Austria and Switzerland will put this action in place or continue to practice it; Germany and France do not plan any particular development. In **Austria**, recent improvements in DNA-analysis to detect wolf-dog hybrids will be considered in the **further development of the genetic monitoring.**

General considerations

Slovenia notes that one of the biggest challenges is the protection of livestock in the Alpine region where wolves were not regularly present for several decades.

Austria notes that general recommendations in the RowAlps report meet complicated local circumstances.

Conclusion

The wolf keeps on spreading in the Alps, with a more or less important population in the countries that are contracting parties of the Alpine Convention. If this spreading represents good news for biodiversity, it also raises concerns, particularly for rural communities with extensive breeding practices, namely pastoralism.

Ensuring the recovery and good conservation status of the wolf in the Alps, in accordance with the status of the species, and with transnational and national legislation, requires, particularly in countries where the wolf had previously disappeared, the implementation of measures aimed at promoting its acceptance by trying to mitigate and compensate for the pressure it can have on human activities, and the damage it can cause to herds through predation.

In order to ensure the good conservation status of the lupine species by taking into account the conditions of its acceptance – mainly by breeders' communities –, the report *Wolf in the Alps: Recommendations for an internationally coordinated management* recommended the implementation of certain measures:

- secure sustainable herd protection systems;
- secure sustainable livestock damage compensation systems;
- promote the dialogue between authorities and wildlife managers, hunters and foresters by establishing information and consultation mechanisms on the wolf;
- integrate local populations in the monitoring of the wolf;
- prevent and prosecute illegal actions towards wolves through law enforcement;
- control wolf-dog hybrids and domestic dogs.

This report is based on the answers provided by the representatives of the States parties to the Alpine Convention regarding the implementation of these measures, whether they are effective, yet to be consolidated or to come.

The answers provided by the six contributing states show a consensus on the necessity to implement these measures to ensure the good conservation status of the wolf, and promote its acceptance despite the pressure and damage it can cause to breeding activities. Indeed, each State, with its specificities, implements the recommended measures to a certain extent.

Thus, the six contributing States have set up a system of compensation for damage linked to the predation of the wolf on the herds. In Liechtenstein, Slovenia, Switzerland and France, the payment of compensation is ensured by the authorities and is enshrined in legislation or regulations. In Germany, compensation was provided by private institutions; since 2020 the State has supplemented this funding. In Austria, compensation is provided by the State without any legal obligation.

Similarly, in the six contributing States, adequate damage prevention measures are in place where damage to livestock has been repeatedly confirmed. As the authorities assist breeders with the implementation of these measures, the payment of compensation is conditional on the application of these measures. In Slovenia, Switzerland, Austria and France, this may require, or has required, adapting the rearing systems in summer pasture.

These measures are taken to reduce the impact of predation on herds, and to promote the coexistence and cohabitation of wolves with farming communities. However, the six contributing States go further, by organizing and promoting dialogue with wildlife managers, hunters and foresters. To do this, the authorities are implementing information and consultation mechanisms on the wolf. In addition, in Slovenia, Liechtenstein, Switzerland and France, appropriate units for the management of wolves, ungulates and forests, within national borders or transborder, are operational.

Similarly, the six contributing States take steps to integrate local populations into wolf monitoring, involving altogether hunters, foresters and nature lovers in the process.

As the wolf is a protected species, its good conservation status obviously depends on the prevention and repression of acts of wolf illegal destruction. In the six contributing States, steps are taken to prevent and prosecute illegal actions through law enforcement.

Finally, the six contributing States take different approaches to control wolf-dog hybrids and domestic dogs.

ANNEX

	LIECHTENSTEIN	France	GERMANY	SWITZERLAND	SLOVENIA	AUSTRIA
Are the authorities, or private institutions, setting up compensation mechanisms for damage caused to livestock by the wolf?	Yes	Yes	Yes	Yes	Yes	Yes
Authorities compensate livestock damages according to current "official lists" based on a legal obligation	Yes	Yes	No	Yes	Yes	No
Authorities compensate livestock damages according to current "official lists" without any legal obligation	No	No	Yes	No	No	Yes
Comments			system established in 2008 with cofunding by private institutions and			
Private institutions compensate livestock damages according to current "official lists" without any legal obligation	No	No	No	No	No	No
Please provide further details for each of the options which has been selected (categories of species compensated; amounts differentiated according to the age or the sex of the animals; specificities related to genetically selected breeds or breeding methods - "organic farming", etc.)	<p>According to the current law all damages of livestock are being compensated (Art. 9 VVSV:). The amount of compensation conforms to official tables provided by breeding associations of the regarding genus of livestock. The amounts differ, for example pedigree animals (herd book) are compensated higher than mixed breeds, or a milk sheep is more valuable than a lamb.</p> <p>Link to the legislation: www.gesetze.li; Verordnung vom 11. September 2018 über die Verhütung und Vergütung von Schäden durch spezifisch geschützte Tierarten (VVSV)</p>	<p>France has set in the regulations a scale according to which direct and indirect losses (proportionate to the cost of the direct losses) are compensated. Herds and apiaries are compensated subject to having previously been the subject of reasonable protection measures or being recognized as not eligible for protection. The species are taken into account (sheep, goats, horses, cattle) and in particular the age, sex, label, production method (organic, etc.) of the circuit (short, etc.).</p>	<p>amount of compensation set by administration of agriculture</p> <p>considering sex, age and special conditions (e.g. breeding, organic farms, rare species)</p>		<p>SLO authorities (Ministry for environment and spatial planning) compensate the damages caused by large carnivores if minimal protection measures are implemented. Damages are evaluated by Slovenia Forest Service.</p>	<p>There is no legal obligation to compensate for livestock damages inflicted by large carnivores. Every federal state does compensate livestock damages but regulations differ from state to state. The amount of indemnification follows official average prices when sold for meat or breeding, respectively. Some states (Oberösterreich, Steiermark) also calculate expected future economic losses, for example due to reduced breeding capacity after loss of an ewe.</p>

Spreadsheet 1; Questions regarding sustainable damage compensation systems for livestock damage (question 1).

	LIECHTENSTEIN	France	GERMANY	SWITZERLAND	SLOVENIA	AUSTRIA
Are adequate damage prevention measures established where livestock damages have been repeatedly confirmed?	Yes	Yes	Yes	Yes	Yes	Yes
Link compensation payments to application of damage prevention measures	Yes	Yes	Yes	Yes	Yes	No
Comments			only in regions where wolf is regularly			
Adapt summering systems in order to establish effective damage prevention measures	No	Yes	No	Yes	Yes	Yes
Comments						Two pilot projects funded by the government of Tirol to test herding systems/night enclosures for sheep grazing on alpine pastures
Secure mechanisms for the advice on and assistance in implementing damage prevention measures by institutions in charge	Yes	Yes	Yes	Yes	Yes	Yes
Comments			(technical measures: administration of agriculture; guarding dogs; administration of environment)			General information on methods of livestock protection is provided by the Österreichzentrum Bär wolf Luchs and on websites of some administrations. The installation or upgrading of fences against wolf attacks and advice on livestock protection is funded in several states up to 80 % of the investment costs. The Österreichzentrum Bär Wolf Luchs is partner of the LifeStockProtect project.
Please provide further details for each of the option which has been selected (what protective measures must be implemented to give rise to compensation in the event of an attack; what types of adaptations/evolutions to farming practices are implemented; what types of advice or assistance are provided to farmers and what form does it take - theoretical, practical, etc)	In Liechtenstein there haven't been cases of livestock damages so far so this question can not be answered. 2.1: fences, livestock guarding dogs, shepherding (Art. 2 VVSV). The management plan for the wolf in Liechtenstein is currently being revised. It is planned to include a list of damage prevention measures that are considered to be reasonable on a more detailed level than listed in the current legislation. 2.3 Liechtenstein offers free theoretical and practical (on site) consulting for livestock owners. The adaption of summering systems has not been implemented yet but is a medium to long-term possibility.	option 1 : herds and apiaries are compensated on condition that they have previously been the subject of reasonable protective measures or are recognized as unprotectable, option 2 : the state can subsidize vulnerability analyses, fences, guard dogs so that breeders and shepherds adapt their practices to the presence of the wolf option 3 : analysis of the vulnerability of farms are subsidized by the state, which can also finance experiments from the results of these analyses	basic prevention needed for compensation (e.g. 90 cm electric fence or having livestock in pastures which could not be secured) financial support of developing herding practices not yet supplied		1. Livestock needs to be protected with electricity (at least 1 electric wire). That is often not enough to protect livestock. 2. With EARDF funds additional work for installation of electric nets, livestock guarding dogs and shepherds can be provided. Adaptation is necessary to make the system more effective. 3. SFS is giving advice how to protect livestock when	There is no clear yes or no to answer the question if adequate damage prevention measures are established. Yes: see answers above No: Some administrations propagate livestock protection measures with restraint. The public debate concerning alpine pastures focusses on the implementation of wolf-free zones as nearly all alpine pastures are judged as not defendable against wolf attacks by relevant stakeholders. Several protection measures are considered not feasible due to technical and legal constraints as well as the undue workload and costs they imply.

Spreadsheet 2; Questions regarding sustainable damage prevention systems for livestock damage (question 2).

	LIECHTENSTEIN	France	GERMANY	SWITZERLAND	SLOVENIA	AUSTRIA
Has any action been taken to foster dialogue among authorities, with wildlife managers, hunters and foresters by establishing information and consultation mechanisms regarding the wolf ?	Yes	Yes	Yes	Yes	Yes	Yes
Establish round tables and workshops to encourage dialogue among authorities and interest groups	Yes	Yes	Yes	Yes	Yes	Yes
Comments			- Bavarian wide working group for Large Carnivores, meeting about once a year - on demand round tables with key stakeholders (administration, interest groups) on district level			
Establish different forms of participation in pilot regions and evaluate outcome in terms of best practice projects	No	Yes	No	No	Yes	Yes
Based on consultations with interest groups, authorities develop and implement guidelines on how to integrate wolf presence into ungulate and forest management	No	Yes	No	Yes	Yes	No
Create suitable units for wolf, ungulate and forest management within the national borders and cross-border	Yes	Yes	No	Yes	Yes	No
Enable and foster fact-based in-group communication	Yes	Yes	No	Yes	Yes	No
Undertake regular systematic public surveys to evaluate and refine work with interest groups and broad public ("social monitoring")	No	Yes	No	No	Yes	No
Other	No	No	No	No	Yes	No
Comments					Preparation of strategic documents.	

Spreadsheet 3; Questions regarding dialogue among authorities, with wildlife managers, hunters and foresters (question 3).

	LIECHTENSTEIN	France	GERMANY	SWITZERLAND	SLOVENIA	AUSTRIA
Please provide further details for each of the options which has been selected (brief description of the project(s): region, start of the project, duration of the project, links to reports...)	Liechtenstein provides stakeholders with the possibility to make statements on changes of legislation and management plans concerning wolf management. When necessary, discussions, round tables etc. are being organized to work together on detailed issues.	Options 1, 2, 3 and 5 : a national wolf group (GNL), and a national action plan (PNA) on the wolf and breeding activities, have been set up. It associates representatives of the state (local and national administrations), representatives of hunters, representatives of agricultural professions, environmental protection associations, elected officials, etc. It meets several times a year. Working groups on different subjects are set up according to current events or according to the requests of the GNL. Similar committees are set up in each department concerned by the presence of the wolf. Regular communications are made to the GNL, or to local elected officials, etc., on subjects relating to the wolf and coexistence with human activities. The prefect of the Auvergne-Rhône-Alpes region is the coordinating prefect for the implementation of the policy relating to the wolf in France: the website of the Regional Directorate for the Environment, Planning and Housing in the region Auvergne-Rhône-Alpes contains an information section dedicated to the wolf. The websites of the prefectures of the departments concerned by the presence of the wolf also contain information on measures to protect flocks, etc... options 4 and 6 : The French Office for Biodiversity (OFB), a public establishment, has a "large predators" department which steers and leads the "wolf-lynx network" which monitors the wolf population and provides information on its good state of conservation on the basis of various presence indices, genetic analysis, etc. within the framework of a scientific and globally recognized monitoring protocol and method. An estimate of the number of wolves is produced annually at the end of each winter; an estimate of the number of packs is made at the end of each summer. These two estimates also provide information on the spatial evolution of the wolf. Naturalists, hunters, breeders, park staff, volunteers etc. can participate and supply presence indices to the "wolf-lynx network" after having pursued training.			Strategic documents for wolf are prepared in the way that all stakeholders are invited to participate in the process. Workshops are organized all stakeholders are invited. Public opinion survey has been carried out. Workshops with hunters were organized to create the measures how to take wolf into account in ungulate management plans.	Option 1: The Österreichzentrum Bar Wolf Luchs has been established in 2019. The aim of this association of the administrations of the nine states and two national ministries (agriculture, environment) is to further develop the management of large carnivores in Austria. Stakeholder organizations and research institutes take part in the discussions as additional members in general meetings and specific working groups. In Vorarlberg a board formed by the state administration and interest groups (Koordinationsgruppe Großraubwild) provides information on large carnivores and facilitates the coordination of management actions. Option 2: The government of Tirol has initiated two projects to investigate the practical consequences of shepherding in the setting of Tyrolian alpine pastures.

Spreadsheet 4; Questions regarding dialogue among authorities, with wildlife managers, hunters and foresters (question 3, end).

	LIECHTENSTEIN	France	GERMANY	SWITZERLAND	SLOVENIA	AUSTRIA
Has any action been taken to integrate local people in the wolf monitoring?	Yes	Yes	Yes	Yes	Yes	Yes
Involve interested people at local level, e.g. hunters, foresters and nature enthusiasts in the monitoring of wolf	Yes	Yes	Yes	Yes	Yes	Yes
Authorities develop an incentive system for the documented presence of wolf at regional or communal level	No	Yes	No	No	No	No
Please provide further details for each of the options which has been selected (brief description of the project(s): region, start of the project, duration of the project, links to reports...)	The general public as well as interest groups are encouraged to share evidence or suspected evidence of wolf. The Office of Environment communicates its findings e.g. the identification of individuals with the general public.	options 1 and 2 : France is developing an incentive system for the documented presence of the wolf at regional or municipal level. After completing compulsory training, any person, whatever their profession, and including persons holding a hunting license and claiming to be hunters, can participate in the "wolf-lynx network" which, under the management of the OFB and according to a recognized scientific method, assesses the presence and number of wolves in France (collection of clues of all kinds - photographic, hair, faeces, urine, blood, etc. that are analysed by the OFB then validated or invalidated). Provoked screaming sessions are also organized, as well as genetic monitoring. At the end of 2021 and 2022, the OFB has increased and continues to increase training to become a correspondent for the wolf-lynx network, in particular for hunters and agricultural professions.	volunteer network composed of different interest groups (hunters, foresters, nature conservationists) are trained for documenting possible evidence of wolf presence (e.g. observations, tracks, kills)		Howling is part of wolf monitoring in Slovenia. It is carried out with interested volunteers. Foresters and hunters are involved in collection of genetic samples	Option 1: In general any endeavour to collect information on wolf presence in an area relies on the cooperation with local hunters and landowners. In some states local hunters have been designated as "Rissbegutachter" (kill inspectors) trained to investigate game carcasses and other items of suspected wolf evidence. Officials of hunting organizations are involved in the monitoring activities in most states.

Spreadsheet 5; Questions regarding the integration of local people in the wolf monitoring (question 4).

	LIECHTENSTEIN	France	GERMANY	SWITZERLAND	SLOVENIA	AUSTRIA
Has any action been taken to prevent and persecute illegal action through law enforcement ?	Yes	Yes	Yes	Yes	Yes	Yes
Establish or strenghten corps of independent state employed rangers and game wardens	Yes	Yes	No	Yes	No	No
Raise awareness within police, state attorneys and judges regarding illegal mortality of protected species	No	Yes	Yes	No	Yes	Yes
Comments						Within Action A3 of the Life WolfAlps EU project workshops are planned for the transfer of best practices of anti-poaching activities in the Italian Alps to Austria (and Slovenia)
Secure and guarantee professional investigation methods	Yes	Yes	Yes	Yes	No	Yes
Comments						Departments of environmental crime investigation do investigate poaching cases.
Enable and encourage interest groups to address illegal actions	Yes	Yes	No	Yes	Yes	Yes
Comments						A project against wildlife crime, funded by national funds and coordinated by WWF Austria, will start in spring 2022 having the focus on birds of prey and large carnivores.
Please provide further details for each of the options which has been selected (brief description of the project(s): start of the project, duration of the project, what has been done? links to reports...)	With the recent change of the hunting law, a second game warden for the country of Liechtenstein has been approved.	options 1 to 4 : the legislation governing protected species is known, awareness is raised among the prosecutors, and the penalties incurred in the event of the destruction of a protected species are known. The french state files a complaint in the event of illegal destruction of wolves. The OFB is regularly called upon by prosecutors to participate in investigations in support of the police and/or the gendarmerie.	Common adaption and improvement of concept for dealing with illegal killing of large carnivores / special protected species		Slovenia hunting association is educating the police officers, hunters and foresters how to proceed in case of detection of illegal killing.	

Spreadsheet 6; Questions regarding the prevention and prosecution of illegal actions through law enforcement (question 5).

Implementation of the management options for the conservation of the wolf in the Alps

Alpine Convention

	LIECHTENSTEIN	France	GERMANY	SWITZERLAND	SLOVENIA	AUSTRIA
Has any action been taken to control wolf-dog hybrids and domestic dogs?	Yes	No	Yes	Yes	Yes	Yes
Authorities control, prohibit or restrict the keeping of wolves and wolf-dog hybrids as pets	Yes		Yes	Yes	Yes	No
Authorities promote the detection of free-ranging wolf-dog hybrids by establishing effective monitoring systems	Yes		No	Yes	Yes	Yes
Comments						The genetic monitoring is maintained by all states and coordinated by the Österreichzentrum Bär Wolf Luchs. The lab in charge is alert to detect wolf-dog hybrids.
Authorities entrust state bodies with the removal of wolf-dog hybrids	Yes		No	No	No	Yes
Comments						The national recommendations concerning the wolf management in Austria advises the relevant authorities to mandate the removal of confirmed wolf-dog hybrids.
Authorities establish measures to prevent wolves from being intentionally or mistakenly killed as wolf-dog hybrids (wolf-dog hybrids have the same protection status in the Bern Convention as the wolf)	No		No	No	No	No
Other	No		No	No	Yes	No
Comments					Removal of Hybrids	
Please provide further details for each of the options which has been selected (brief description of the measures, start of the measure, duration, what has been done? links to reports...)	6.1: The keeping of wild animals is subjected to a permit according to the current legislation. The Veterinary Office of Liechtenstein (Amt für Veterinärwesen und Lebensmittelkontrolle) ist the executive authority in this case. https://www.liv.li/inhalt/12553/amtsstellen/wildtiere-private-und-gewerbsmassige-haltung 6.2: The detection of hybrids is tied to DNA sampling (saliva, scat, tissue) which is part of wolf monitoring. 6.3: The removal of wolf-dog hybrids is stated in the wolf management plan of Liechtenstein (Konzept Wolf Liechtenstein). https://www.liv.li/inhalt/118450/amtsstellen/wolfsmanagement-umgang-mit-dem-wolf		Authorities control keeping of wolves and wolf-dog hybrids Mainly genetic monitoring should reveal possible hybrids in the wild Removal of hybrids principally possible (see Bavarian Wolf Action plan)		Official permissions are given for lethal removal of hybrids from nature.	
If nothing has been done, please specify the reasons : not concerned in view of the extent of the hybridation phenomenon		Yes				
If nothing has been done, please specify the reasons : we do not have enough expertise in the field and support to carry out such a project		No				
If nothing has been done, please specify the reasons : no political support/priority		No				
If nothing has been done, please specify the reasons : we do not have enough financial means		No				

Spreadsheet 7; Questions regarding the control of wolfdog hybrids and domestic (question 6).

	LIECHTENSTEIN	France	GERMANY	SWITZERLAND	SLOVENIA	AUSTRIA
Secure sustainable damage prevention and compensation systems for livestock damages	Yes	Yes	Yes	Yes	Yes	Yes
Comments			done, but will be improved and adapted			It is beyond dispute that the competent state administrations will continue to provide compensation systems in the next years. This was just underlined by a working group of the Österreichzentrum Bär Wolf Luchs tasked with elaborating up-to-date recommendations for compensation payments.
Foster dialogue among authorities, with wildlife managers, hunters and foresters by establishing information and consultation mechanisms regarding the wolf	Yes	Yes	Yes	Yes	No	Yes
Comments			done, will be intensified according to rising wolf presence			The Österreichzentrum Bär Wolf Luchs will continue to play a central role in the further development of the wolf management in Austria.
Integrate local people into wolf monitoring	Yes	Yes	Yes	Yes	Yes	Yes
Comments			should be kept on current level			Within a project supported by rural development funds a working group formed by members of the Österreichzentrum Bär Wolf Luchs will evaluate and propose refinements to the current monitoring system. The involvement of local hunters, foresters and land-owners will be promoted.
Prevent and persecute illegal action through law enforcement	Yes	Yes	Yes	Yes	Yes	No
Comments			progressive conceptual development -> adjusting/implementing law enforcement			
Control of wolf-dog hybrids and domestic dogs	Yes	Yes	Yes	Yes	Yes	Yes
Comments		the genetic analysis regularly carried out show that this is not a significant problem in France. If these analysis were to demonstrate the need to implement specific measures, the french state would then take the appropriate decisions.	no special further development planned			Recent improvements in DNA-analysis to detect wolf-dog hybrids will be considered in the further development of the genetic monitoring in Austria.
	LIECHTENSTEIN	France	GERMANY	SWITZERLAND	SLOVENIA	AUSTRIA
Please provide further details for each of the options which has been selected (brief description of the project(s): start of the project, duration of the project, what has been done? links to reports...)	These options are already in the process of being implemented.	The french state will keep on pursuing a policy that focus on preserving the good state of the wolf population and supporting breeders facing predation			Management is implemented according to management plan.	Management options can be considered without specific projects (with a definite starting point, a defined duration, reports...). The compensation of damages is not legally binding but the political reality does not allow state administrations not to ensure compensations. The Österreichzentrum Bär Wolf Luchs is not a project limited in time (https://baer-wolf-luchs.at/). The refinements of the monitoring system will be discussed in a working group within the Österreichzentrum Bär Wolf Luchs; the working group shall be formed in the next weeks. To watch out for wolf-dog hybrids is a continuous task for the relevant administrations. The lab at the Vetmeduni Vienna analysing the samples collected within the wolf monitoring investigates the possibilities to implement the SNP panel developed at the Senckenberg lab using cheaper technical equipment.

Spreadsheet 8; Questions regarding the implementation of the management options proposed in the WISO report in the near future (within the next five years) (question 7).

	LIECHTENSTEIN	France	GERMANY	SWITZERLAND	SLOVENIA	AUSTRIA
General comments					One of the biggest challenges in Slovenia is protection of livestock in the Alpine region where wolfs were not regularly present for several decades.	There is a grey zone between Yes and No. General recommendations in the RowAlps report meet complicated local circumstances.

Spreadsheet 9; General comments (question 8).

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