


2018-2023 National Action Plan on **the wolf** and **stock-rearing** **activities**



 <p><i>Liberté • Égalité • Fraternité</i> RÉPUBLIQUE FRANÇAISE</p>
MINISTRY FOR AN ECOLOGICAL AND INCLUSIVE TRANSITION
MINISTRY OF AGRICULTURE AND FOOD

A Word from the Ministers

After a highly instructive public consultation period, we have the pleasure of presenting the French national action plan on the wolf and stock-rearing activities, which will take effect for the next six years. It is the result of a balance between preserving the biodiversity of our terroirs - of which the wolf is a part - and protecting the livestock owners against the numerous attacks on their flocks.

The wolf plan provides sustainable and precise responses to the suffering of farmers. It provides for the implementation of a series of measures to assist the livestock owners confronted with predation, and of increased support to pastoralism. It will enable all livestock owners to effectively defend their flock/herd, whether they are in an attack outbreak site or in a colonisation area. To achieve this, the rules for shooting management and protection measures will be adapted to keep attacks on flocks down to a minimum.

In accordance with the lessons learned from the scientific study conducted in 2016 by the French National Museum of Natural History and the French National Hunting and Wildlife Agency (ONCFS), the plan is in keeping with the emphasis put on the demographic viability of the species, estimated at 500 wolves, based on current scientific knowledge. This threshold can be adjusted over time according to the annual recommendation of the Plan's new permanent scientific committee.

From an ecological point of view, the wolf plan aims to fill the knowledge gap concerning the species' behaviour and the impacts of wolf presence on ecosystems and on human activities other than livestock farming (hunting, forestry, and so on), with a view to taking these effects into account, if necessary.

The national action plan adopts the principle of a management strategy adapted to impacts on stock-rearing and to the realities of the territories. The consideration of the effects of the measures implemented, and the development of new knowledge, through studies and experimentation with innovative devices, are essential in defining and carrying out relevant actions in the field. These studies and experiments will be closely followed by the permanent scientific committee.

We will assess this plan in mid-course before the launch of the second phase. This year, communication to the various audiences concerned will be expanded so that the actions undertaken can be better understood, relayed and exploited. The oversight will be adjusted to consolidate the role of prefects for a management as close as possible to the field and the difficulties encountered, and to involve the elected representatives of the territories concerned. The prefect coordinator of the wolf plan will have a reinforced role in steering the plan.

We will take care to ensure in the coming months that this plan can be implemented in its entirety, since each measure of the plan is important in the overall balance that we have defined together following the dialogue and the public consultation. We have faith that the stakeholders and local elected officials can take the heat out of the debate and build this coexistence together over the long term.

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List of abbreviations used in the NAP

APN: Association de Protection de la Nature / Association for the Protection of Nature.

ASP: Agence de Services et de Paiement / Services and Payment Agency

CA: Chambre d'Agriculture / Chamber of Agriculture

CNPN: Conseil National de la Protection de la Nature / National Council for the Protection of Nature

CNRS: Centre National de la Recherche Scientifique / French National Centre for Scientific Research

DDT (M): Direction Départementale des Territoires (et de la Mer) / Departmental Land and Sea Directorates

DDPP: Direction Départementale de la Protection des Populations / Departmental Directorate for Population Protection

DEB: Direction de l'Eau et de la Biodiversité / Water and Biodiversity Board

DGER: Direction Générale de l'Enseignement et de la Recherche / General Directorate for Teaching and Research

DRAAF: Direction Régionale de l'Alimentation, de l'Agriculture et de la Forêt / Regional Directorate for Food, Agriculture and Forestry

DREAL: Direction Régionale de l'Environnement, de l'Aménagement et du Logement / Regional Directorate for the Environment, Planning and Housing

ESCO: Expertise Scientifique Collective / Collective Scientific Expertise

FDC: Fédération Départementale des Chasseurs / Departmental Hunting Federation

EAFRD: European Agricultural Fund for Rural Development

ERDF: European Regional Development Fund

FNC: Fédération Nationale des Chasseurs / French National Hunting Federation

GNL: Groupe National Loup / French National Wolf Group

IDELE: Institut de l'Élevage / French Livestock Institute

INRA: Institut National de la Recherche Agronomique / French National Institute for Agricultural Research

MAA: Ministère de l'Agriculture et de l'Alimentation / French Ministry of Agriculture and Food

MNHN: Muséum National d'Histoire Naturelle / French National Museum of Natural History

MTES: Ministère de la Transition Ecologique et Solidaire / Ministry for an Ecological and Inclusive Transition

ONCFS: Office National de la Chasse et de la Faune Sauvage / French National Hunting and Wildlife Agency

OPA: Organisation Professionnelle Agricole / Professional Farming Organisation

OPEDER: Opération de Protection Dans les Espaces Ruraux / Protection Operation in Rural Areas

CAP: Common Agricultural Policy

PAD: Prédateurs – Animaux Déprédateurs / Predators - Animal Pests

PDR-R: Programmes de Développement Rural Régionaux / Regional Rural
Development Programmes

PN: Parc national / National park

NAP: National Action Plan

PNR: Parc naturel régional / Regional natural park

PSEM: Plan de Soutien de l'Économie de Montagne / Support Plan for the Mountain Economy

RN: Réserve naturelle / Natural reserve

IUCN: International Union for Conservation of Nature

ZPP: Zone de Présence Permanente / Permanent Presence Area



Diagnosis of the 2013-2017 plan and main lines for the 2018-2023 plan

The knowledge acquired since the return of the wolf in France, and the knowledge acquired abroad, as well as the work and analyses conducted in France in recent years, make it possible to determine the main lines for action in order for the National Action Plan (NAP) to meet the objectives set.

In this part, the aim is to summarise the diagnosis of the 2013-2017 National Wolf Action Plan, based on the current state-of-play and its analysis, on the conclusions of the scientific studies, the assessments and the results of the working group of the wolf prospective approach conducted in 2016/2017.

The summary highlights the main lines for action developed in the second part of the NAP which describes the actions to be implemented.

1. The lessons learned from the current biological status of the species and its biological monitoring, and from the knowledge of the role of the wolf in ecosystems

a) Biological status in France

On the French national territory, at the beginning of 2013, the results of the population monitoring indicated 31 permanent presence areas (ZPPs) including 21 structured into packs. By March 2017, this number had risen to 57 ZPPs including 44 packs. At the end of summer 2017, there were 63 ZPPs including 52 packs.

The estimated national population size increased from a range (95% confidence interval) of [119 – 229] animals in March 2013, to [265 – 402] in March 2017. These monitoring indicators reflect a demographically favourable population status.

Geographically, the presence of the wolf concerned 515 communes (including 271 with regular presence) distributed throughout 25 departments at the end of 2012, compared with 846 communes (including 448 with regular presence) in 33 departments, at the end of 2016. The geographic monitoring indicator therefore reflects an expansion of the presence range over the period considered.

A scientific study on the future of the wolf population in France (ESCO biologie) was carried out by the MNHN and the ONCFS. Elements concerning the wolf population biology were outlined: the modelled growth rate of wolf populations can be summarised as a value of 12%, within a range of variation of [5% – 25%].

Furthermore, the value of the annual average survival rate over the period 1995-2013, estimated independently, is approximately 0.78 (95% confidence interval: [0.73 – 0.82]).

These two values suggest that the wolf population is not exposed to a demographic extinction risk greater than 10% over 100 years.

Another reflection will be necessary regarding the population's genetic viability.

b) Biological status in bordering countries

- Spain: changes to the population are mainly due to a southward colonisation. Moreover, the last exhaustive census (2011) indicated 2 200 to 2 500 wolves.
- Italy: the average population size value (50% confidence interval) is [1 070 – 2 472] animals (end of 2016). The major part of the development observed would occur in the Alpine part of the population.
- Switzerland: the species is in the early stages of establishment of settled groups with 3 packs detected.
- Germany: the latest figures (2016) report 47 packs and 15 settled pairs. The population, which is growing, is located mainly in the north-eastern third of the country, with a few dispersing individuals in the west.
- Belgium: only a few signs point to the sporadic presence of the species (dispersing animals).

Lessons learned

The recommendations of the MNHN-ONCFS scientific study should be taken into account to ensure the species' viability on the French national territory.

The biological status of the species enables the removal of individuals to prevent significant damage to flocks, as provided for by the regulations. This possibility must be used within a reasoned framework, taking into account the recommendations and scientific expert reports. Acquiring knowledge should contribute to improving the assessment of the effectiveness and impacts of interventions on the wolf population and on predation control.

c) Biological monitoring of the species

The various recommendations contained in the 2013-2017 National Wolf Action Plan have largely been implemented: improved reactivity of the species' detection in the colonisation fronts, increased scope for characterising the ZPP status.

Lessons learned

In order to further improve the biological monitoring of the species, the areas of interest for the next NAP are:

- assessing the scope for progressive adjustment of the population monitoring protocols to adapt to the population dynamics in the French national territory, while maintaining the same performance level;
- developing biological monitoring tools to achieve better use of the data and analyses to meet the objectives set forth in the NAP, in particular for predation control.
- improving monitoring through increased participation from rural stakeholders;
- expanding communication regarding monitoring results.

Similarly, the issue of hybrids will be given particular attention, to assess whether its rate of 1 to 2% of the population changes, and justifies a scheme to exclude these from the ceiling limit of wolves that may be culled each year. A general inspection mission will be undertaken on this issue, led by the General Council for Food, Agriculture and Rural Areas (Conseil général de l'alimentation, de l'agriculture et des espaces ruraux) and the General Council for the Environment and Sustainable Development (Conseil général de l'environnement et du développement durable).

d) The relationship between the wolf and its environment

Improved knowledge of the interactions between wolves and wild ungulates was acquired, revealing that the impact of predation on ungulate survival is significantly influenced by the occurrence of other factors increasing prey vulnerability. In light of this new knowledge, questions have emerged, in particular concerning the heterogeneity of the predation pressure's spatial distribution within the territory of the pack studied.

Lessons learned

In order to continue this work, a new project is relevant with the aim of understanding how predators, wild and domestic species interact with each other on the scale of the territory of an established pack, in relation to some forestry, pastoral and agricultural aspects.

2. The species' predation on domestic flocks

a) The predation phenomenon

Wolf predation is a dynamic phenomenon which has undergone changes between 2013 and 2017 (changing location of attacks and increase in their number): indeed, there are temporal and spatial variations. This spatial heterogeneity is reflected in a non-equivalent concentration of attacks according to territories, which makes it possible to delimit predation outbreaks.

a) The sensitivity of territories to predation

In order to explain the difference in sensitivity of farming systems to predation by wolves, a study has just been finalised and a second will be launched shortly:

- "Would the adoption of flock protection measures in the Grands Causses territory enable stock-rearing systems to remain viable in the face of the arrival of the wolf? " This study was conducted by INRA and was finalised and published in November 2017. It highlights the constraints and the consequences of implementing protection for flocks confronted with predation with regard to the livestock farming systems found in the Grands Causses. It studies the impacts of the implementation of protective measures and the adaptation of livestock farms on the operation and zootechnical and economic performances of the farms and on the work of livestock farmers, as well as their impacts in terms of technical, human and financial means. It reveals the significant difficulties of adapting and protecting livestock farms confronted with predation.
- "Forecasting study on the capacity of French pastoralism to maintain itself in the context of the wolf presence by 2030". This study is currently being launched. (Cf. action sheet 7.1 of the NAP)

Lessons learned

Since the predation phenomenon can be concentrated in certain areas, the livestock farms located there must benefit from increased support through a specific scheme.

The same applies for colonisation fronts where potentially significant predation has been reported.

To improve the effectiveness of these measures, it is also important to acquire new knowledge of wolf ethology in agro-pastoral systems and of the determinism of attack outbreaks.

Similarly, innovative protection and deterrent devices must be tested in order to better control predation.

The predation situations and the vulnerability of territories, according to the characteristics of farming systems, must be duly objectified.

Finally, in some colonisation fronts, as a result of herding methods, the implementation of measures to protect flocks/herds against predation by wolves presents significant difficulties ("colonisation fronts" refers to areas that are not classified in circle 1 according to the decree of 19 June 2009). Once such areas have been determined, it is appropriate that adapted wolf management should be practised there.

3. Flock protection measures

a) The flock protection scheme

The domestic flock protection scheme aims at ensuring the maintenance of pastoral activity and, in general terms, stock-rearing activity in the presence of the wolf. It consists of a financial aid for livestock owners aimed at limiting additional protection-related costs via MAA-EAFRD funding at a rate of 80% for guarding, dogs and pens/enclosures and 100% for vulnerability analysis. The MAA also provides the DDT with credits to face emergency situations when the first attacks occur on their territories and, in particular, on new territories colonised by the wolf.

The assessment of the protective measures' efficiency ordered by the MAA and the MTES and conducted in 2015 by the independent research bureau Terroïko showed that:

- in the areas newly colonised by the wolf, the protection limits both the frequency of attacks and the number of victims;
- the protective measures in the MAA-EAFRD aid scheme are implemented and are effective;
- predation on protected flocks is lower than that on non-protected flocks;
- in established areas, the protection limits the number of victims and maintains the frequency of attacks at a level which depends on the environment and on the wolf pressure;
- the protective measures are effective essentially when they are deployed in combination with one another; the effectiveness of these combinations differs according to the landscape and pastoral contexts;
- Only combinations of three measures or more are likely to limit the number of attacks;
- livestock farmer guarding and guard dogs display the highest level of efficiency (the lower efficiency of shepherd guarding is related to both the lack of trained shepherds and the difficult working conditions);
- the effectiveness of protective measures increases with the number of years of claims by the livestock owner, and becomes saturated with the increase of the flock size (decreased efficiency when the flock size increases);

- the protective measures are more effective in mountain pasture environments (nomadic mountain livestock farmers on easily accessible summer grazing land and in open environments) than in intermediate environments (pre-Alpine or Mediterranean sedentary livestock farmers).

This study also proposed areas for improvement such as the establishment of an observatory of the effectiveness of protection measures.

b) Technical support for livestock owners

Technical support for livestock owners was identified as an area to be developed to improve the effectiveness of protection measures.

c) Guard dogs

The representative working group of the GNL, which met in 2016, identified the need to establish an expert network on guard dogs and to structure the livestock guard dog sector.

d) Shepherds

Experience has shown that increasing the attractiveness of the shepherding profession, recognition of their expertise, and improved access for livestock farmers upon recruitment, would be vectors to improve the protection of flocks.

Lessons learned

There are optimisation routes for protection measures. Therefore, it is relevant to conduct new experiments in flock protection.

Moreover, support for livestock farmers must also be increased. Indeed, the sociological study of the MNHN shows the importance of support for livestock owners for their overall circumstances, including from an economic point of view, by ensuring the long-term sustainability of the production systems.

4. Damage compensation

The compensation amounts, constantly on the increase, reached €3,200,000 in 2016 (+ 60% since 2013). These amounts are correlated with the growth of the wolf population, of the permanent presence areas and of the geographical range of the species.

a) The compensation process

A compensation procedure has been established, involving several actors: the livestock owner who has suffered predation losses contacts the DDT – the ONCFS comes to draw up the report – the DDT gives its technical conclusion – the file is sent to the payment issuing body mandated by the MTES, namely the ASP. This information is also recorded in parallel in the "Géoloup" database. Following this process, approximately 88.7% of the cases are compensated for, but this rate varies according to the departments. In cases where the reports indicate an "undetermined cause of death", whether or not there is a compensation depends on the departments, according to the local context.

b) Compensated losses related to predation

Compensation for livestock owners affected by wolf predation takes into account different types of losses: direct losses (57% of the amount paid for the compensation), indirect losses (30%), and missing animals (13%).

Regarding the victims, 94% are sheep, whereas less than 1% are cattle.

In particular cases, a livestock owner can be compensated for exceptional losses that correspond to the value of missing animals, not found within a given period, exceeding the lump sum already paid in this regard. They arise in precise cases, covered by a prefectural decision, commonly at the end of the year when all accounts have been established.

In 2013, an experimental scheme was set up in the Dévoluy by volunteer livestock owners: declarative damage reports for low intensity attacks. After the expansion of the scheme, the outcome proved to be positive and its application was authorised by the MTES throughout the Hautes-Alpes department. In 2017, Alpes de Haute-Provence also launched the same experiment.

During the 2013-2017 period, the evolution of the compensation scheme for wolf-related damage was studied following work conducted between the MTES and the socio-professional organisations concerned: study of the principle of prior implementation of protection measures in order to receive compensation (a principle which the professional farming organisations opposed), adjustment of the compensation amounts, demonstration of the need to improve compensation for certain losses.

Lessons learned

The compensation must be correctly adjusted to the damage suffered and must therefore be regularly assessed. The need for prior implementation of protection measures in order to receive compensation is a community rule: this principle must be applied in a progressive and proportionate manner.

Moreover, the damage declaration procedure must be pursued when it responds to the expectations of livestock owners in the territories.

Finally, so-called "indirect" losses on the flocks must be assessed based on objective criteria.

5. Interventions in the wolf population

a) Regulatory framework

The "technical protocol for intervention" in the wolf population is governed by an interministerial "framework decree": under the 2013-2017 national plan, it is that of 30 June 2015. However, work was conducted to consider its adaptation: its revision aims to favour defensive shooting by prioritising culling by shooting, and to change the validity period of the ceiling.

Since 2016, in order to set the ceiling providing for the number of wolves whose culling is authorised on French national territory, an adaptive approach is used. For 2017-2018, the interministerial "ceiling decree" was established on 18 July 2017: the ceiling is set at 40 specimens (in addition, a prohibition of culling by shooting is effective beginning from the destruction of 32 specimens).

b) Quantitative assessment of authorised destructions

Between 2013 and 2017, the authorised ceiling was reached for the first time during the 2015-2016 period, and the same scenario took place over the 2016-2017 period. Moreover, as regards defensive shooting, a high proportion of livestock owners among those attacked have the opportunity to implement these shootings. Reinforced defensive shooting leads to a higher

destruction of wolves since the creation of the ONCFS wolf brigade. As regards culling by shooting, an imbalance is observed in the temporal distribution of these shootings as well as a risk of spatial imbalance. The share of adult individuals culled is largely dominant. These shootings are carried out mostly by hunters and official wolf hunters (French: louvetiers).

c) Mobilisation of stakeholders

Many stakeholders are mobilised for the various shooting operations:

- the wolf brigade;
- official wolf hunter lieutenants (French: lieutenants de louveterie) (volunteer officials);
- volunteer hunters can participate in the culling by shooting and in the reinforced culling by shooting, after having undergone mandatory training, implemented by ONCFS.

d) Effect on damage

As regards the effect of this shooting on predation: without adapted spatial and temporal metrics, it is difficult to demonstrate a general trend in the evolution of damage according to the level of culling. However, many testimonies indicate that defensive and reinforced defensive shootings temporarily reduce the number of attacks on the flock concerned. In order to better understand and objectify the impacts of wolf shooting, it seems necessary to carry out an in-depth statistical study based on methodological prerequisites derived from an internship study co-supervised by the ONCFS, the DREAL and the DRAAF in 2017 (assessment of the effect of shooting authorisations (deterrence) and the effect of wolf destructions on damage assessments).

e) Study on deterrence

New options are also considered: indeed, as from 2016, the DEB entrusted CEREMA with a study on a state of affairs in France and abroad regarding wolf detection and deterrence techniques to help protect sheep flocks.

Lessons learned

It is relevant to adjust the regulatory framework for interventions in the wolf population in order to:

- give livestock owners the opportunity to permanently defend their flocks;
- give the priority to defensive shooting;
- better prioritise interventions according to predation pressure;
- guarantee compliance with the threshold of wolves that may be killed by an alignment of the campaign with a calendar year;
- limit attacks on flocks to a minimum.

Moreover, in some colonisation fronts where the implementation of flock protection measures against wolf predation presents significant difficulties, the aim must be to slow the expansion of the wolf.

Furthermore, understanding of the impact of shooting must be improved, stakeholder mobilisation must be continued and new deterrent methods must be tested.

It is necessary to study and characterise the impacts of the shootings on predation and on population dynamics.

6. Coordination between the various stakeholders

a) Communication on French national territory by the various stakeholders

Several communication levels were put in place by French stakeholders working on the wolf: a dissemination internal to the administration, an inter-partner dissemination and a dissemination to the general public, in particular with the creation of the "InfoLoup" newsletter.

A page on the website of the DREAL, in connection with the DRAAF, was created and is regularly updated to present the main information. The main documents include: a newsletter on the wolf, "InfoLoup", and the "Bulletin Loup du Réseau" (Wolf Bulletin of the Network) to provide general information on the monitoring of the species in France.

Some documents have more limited targets: livestock owners, those involved in shooting operations, mayors, and so on.

Finally, awareness-raising within schools helps to promote understanding of pastoralism and of the issues related to wolf presence in the territories.

Lessons learned

The communication and information actions must be continued, improved and complemented in the new NAP.

b) The oversight – current organisation provisions

The MTES and the MAA jointly developed and steered the 2013-2017 wolf plan.

On a national level, the GNL, a place for exchanges between the various organisations, was also established. Its composition has changed over the years but has no longer succeeded in gathering all these members since 2014. The preliminary work before the drafting of the 2018-2023 wolf NAP made it possible to renew discussions based on the avenues for progress that can be explored and implemented.

The decentralised departments of both the MTES and the MAA are responsible for the application of the action plan at local level: on an inter-regional scale, the technical coordination of the wolf NAP has been ensured by the prefect of the Auvergne-Rhône-Alpes region since 2004. This role was reinforced in 2014, and ever since, the prefect of the Auvergne-Rhône-Alpes region has been the preferred interlocutor of the ministers and prefects for all wolf-related issues.

The Auvergne-Rhône-Alpes DRAAF and DREAL provide technical support to the prefect coordinator: the DREAL is responsible for the coordination of the compensation for wolf-related damage to domestic flocks, the protocol for intervention in the wolf population and communication. The Auvergne-Rhône-Alpes DRAAF is responsible for coordinating the flock protection measures. Furthermore, within the departments, the prefects are responsible for implementing the different components of the wolf plan. In doing so, they rely on the DDT(M). Finally, the departmental services of ONCFS are involved in the biological monitoring of the wolf population and draw up most of the reports of damage to domestic flocks in the field. Culling by shooting and reinforced culling by shooting are carried out under their technical control.

Lessons learned

Avenues for development were identified for the next NAP; in particular, the consolidation of the role of the prefect coordinator and that of the department prefects in order to take into account the unique local attributes. It also appears important to give them leeway to manage the wolf population according to the growth dynamics of this population and the damage caused. Improved linkage between the prefect coordinator and the department prefects can be implemented by bolstering the departmental steering of the NAP, and by ensuring proper consultation with the stakeholders affected by the wolf problem.

Finally, a new Scientific Committee for the plan should be able to ensure an improved link between scientific aspects and management of the file, geared towards a greater efficiency of the measures implemented.

c) International and cross-border cooperation

Trans-border cooperation is ensured within various organisations:

- within the Alpine Convention: establishment in 2009 of a platform on "Large Carnivores, Wild Ungulates and Society" (WISO);
- through exchange and monitoring of practices at the level of the European Commission: establishment of a platform on the Coexistence of People and Large Carnivores as of 2014, review of the actions implemented by the Member States to comply with the provisions for the conservation and protection of the wolf under the "Habitats, Fauna and Flora" Directive.

Finally, in 2014, the Permanent Committee of the Bern Convention issued a recommendation on the issue of hybridisation between the wolf and the dog.

Lessons learned

International and trans-border cooperation must be increased in order to achieve improved sharing of ecological objectives and improved understanding of effective practices. It is appropriate to reinforce relationships with those Member States of the European Union concerned by the wolf.



The actions

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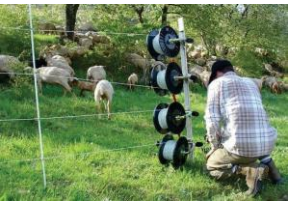
	Action	Title	Leader:	Schedule:						
				2018	2019	2020	2021	2022	2023	
Approach 1	1-1	Pursue the deployment of the protection measures throughout the country according to the expansion of the wolf, with justification, in order to optimise their efficiency while ensuring greater financial control.	MAA	1						
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				3						
	1-2	Establish a "guard dog" technical network	MAA MTES	1						
				2						
	1.3	Establish an observatory for the efficiency of flock protection measures - resource centre	MAA MTES	1						
				2						
	1.4	Improve the efficiency of protection measures by funding a technical support scheme for livestock owners	MAA Regional Councils							
	1.5	Establish a technical support team for the implementation of protection measures, in particular for newly attacked livestock farms	MAA MTES DRAAF Auvergne Rhône-Alpes	1						
				2						
	1.6	Experiment with the implementation of a mobile intervention scheme to support livestock owners and afford them assistance in significant attack outbreaks	Mercantour PN (or project owner) for the experimental phase PNR	1						
				2						
	1.7	Develop experiments with a view to the implementation of innovative protection and deterrent devices	MAA MTES							
	1.8	Acquire improved knowledge about wolf ethology in the agro-pastoral system	PN RN Service provider chosen following the call for tenders	1						
				2						
	1.9	Improve the attractiveness of the shepherd's profession and its recognition	MAA							

	Action	Title	Leader	Schedule					
				2018	2019	2020	2021	2022	2023
	1.10	Adapt the regional aid schemes for pastoral equipment to optimise flock protection in partnership with local authorities.	Regions DRAAF and DREAL Auvergne Rhône-Alpes Protected areas DDT(M)						
	1.11	Reinforce flock protection in attack outbreaks	DREAL and DRAAF Auvergne Rhône-Alpes						
	1.12	Ensure that the protection measures are implemented according to the commitments set forth in the contractual arrangements for flock protection to guarantee the anticipated level of efficiency.	MAA MTES - DREAL and DRAAF Auvergne Rhône-Alpes	1					
2									
Approach 1B:	1B.1	Increase support for pastoralism	MAA						
Approach 2	2.1	Reinforce the steering of the plan in colonisation fronts	Department prefects DDT	1					
				2					
				3					
	2.2	Reinforce the steering of the plan in predation outbreaks, concentrated predation areas	Department prefects DDT	1					
				2					
2.3	Implement the conditions for mediation in the departments affected by the wolf's presence	Department prefects Protected areas							
2.4	Develop technical support in protected areas (without detriment to the conduction of experimental operations)	PN RN PNR							
2.5	Improve stray dog management	ONCFS DDT(M) DDPP Department prefects Mayors							

	Action	Title	Leader	Schedule					
				2018	2019	2020	2021	2022	2023
Approach 3	3.1	Apply the new terms and conditions for the compensation of damage to domestic flocks	MTES						
	3.2	Develop the deployment of the declarative procedure for damage reports, on the basis of livestock owners' volunteering	MTES DREAL Auvergne Rhône-Alpes						
Approach 4	4.1	Continue and adapt the biological monitoring of the species by reinforcing its contribution to an improved predation control	ONCFS DREAL Auvergne Rhône-Alpes	1					
				2					
				3					
Approach 4	4.2	Monitor hybridisation in the wolf population	ONCFS						
	4.3	Encourage the diversity of stakeholders among the correspondents responsible for the collection of presence signs, in particular by promoting the access to livestock owners and hunters	ONCFS						
Approach 5	5.1	Align the shooting campaign with the calendar year (from 1st January to 31st December)	MTES	1					
				2					
	5.2	Apply the framework terms and conditions of intervention to wolf populations	MTES MAA Prefect coordinator						
	5.3	Sustain the national wolf brigade from ONCFS and consolidate its workforce	ONCFS Prefect coordinator						
	5.4	Continue the dissemination of the lessons learned from the wolf brigade so as to better integrate the official wolf hunter lieutenants for the implementation of reinforced defensive shooting	ONCFS DDT						
	5.5	Improve the conditions for defrayal of official wolf hunter lieutenants	MTES Department prefects						
5.6	Maintain a high level of involvement from hunters, in particular through training and communication actions	ONCFS							

	Action	Title	Leader	Schedule						
				2018	2019	2020	2021	2022	2023	
	5.7	Ensure the training of livestock owners who wish to obtain a hunting license to ensure the defence of their flocks	ONCFS							
Approach 6	6.1	Develop communication and information	Prefect coordinator DREAL and DRAAF Auvergne Rhône-Alpes - Department prefects - ONCFS - Protected areas							
	6.2	Develop training	MAA DRAAF Auvergne Rhône-Alpes							
Approach 7	7.1	Carry out a forecasting study on pastoralism in the context of the wolf's presence	MAA							
	7.2	Produce a national mapping of the vulnerability of territories to predation	MTEs MAA Organisation selected following the call for tenders							
	7.3	Re-assess the indirect losses incurred by flocks	MTEs DREAL and DRAAF Auvergne Rhône-Alpes							
	7.4	Assess the impacts of the wolf on ecosystems, both positive and negative, in particular through the renewal of a predator - wild prey programme	ONCFS							
	7.5	Assess the effect on predation of shooting authorisations granted by the prefects and of wolf culling	ONCFS DREAL Auvergne Rhône-Alpes							

	Action	Title	Leader	Schedule						
				2018	2019	2020	2021	2022	2023	
	7.6	Define the best practices to be adopted when the wolf is observed near inhabited areas	Prefect coordinator DREAL and DRAAF Auvergne Rhône-Alpes MTES MAA Town councils							



APPROACH 1

FLOCK PROTECTION

The financial aid for the protection of domestic flocks confronted with predation by wolves aims at ensuring the sustainability of pastoral activity in the regulatory context of the wolf's protection and of the maintenance of the positive conservation status of its population. It covers a part of the additional costs related to adaptations of activities that livestock owners are required to carry out in areas where wolf predation occurs.

For their installation, the protection measures must be contracted each year by the eligible persons. The cost of the protection measures is borne at 80% by the MAA and the EAFRD, the remaining 20% being borne by the livestock owners.

The decree of 19 June 2009 on the environmental protection operations in rural areas concerning the protection of flocks against predation, sets forth the terms and conditions for implementing flock protection.

As of the end of 2017, there are five options: increased guarding, electrified mobile gathering pens, guard dogs, electrified reinforced protection pasture enclosures, and vulnerability analysis.

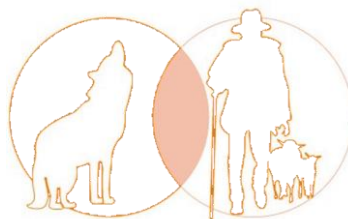
The funding of the protection measures depends on the predation levels in the territory. Hence, the predation area is divided into a circle 1 and a circle 2.

- **CIRCLE 1:**
Areas where predation on domestic livestock has been recorded on one or more occasions in the last two years
All protection measures can be subscribed for.
- **CIRCLE 2:**
Areas where prevention actions are needed due to the possible occurrence of predation by wolves during the current year
All protection measures can be subscribed for, except reinforced guarding and vulnerability analysis.

The aim of the actions provided for by the NAP is to develop and optimise the flock protection measures to improve the control of predation due to wolves.

ACTIONS

- 1.1 Pursue the deployment of the protection measures throughout the country according to the expansion of the wolf, with justification, in order to optimise their efficiency while ensuring a greater financial control.
- 1.2 Set up a "guard dog" technical network
- 1.3 Establish an observatory for the efficiency of flock protection measures - resource centre
- 1.4 Improve the efficiency of protection measures by funding a technical support scheme for livestock owners
- 1.5 Establish a technical support team for the implementation of protection measures, in particular for newly attacked livestock farms
- 1.6 Experiment with the implementation of a mobile intervention scheme to support livestock owners and afford them assistance in significant attack outbreaks
- 1.7 Develop experiments with a view to the implementation of innovative protection and deterrent devices
- 1.8 Acquire improved knowledge about wolf ethology in the agro-pastoral system
- 1.9 Improve the attractiveness of the shepherd's profession and its recognition
- 1.10 Adapt the regional aid schemes for pastoral equipment to optimise flock protection in partnership with local authorities.
- 1.11 Reinforce flock protection in attack outbreaks
- 1.12 Ensure that the protection measures are implemented according to the commitments set forth in the contractual arrangements for flock protection to guarantee the anticipated level of efficiency



ACTION 1.1 Pursue the deployment of the protection measures throughout the country according to the expansion of the wolf, with justification, in order to optimise their efficiency while ensuring a greater financial control

1) Background

In accordance with Article D.114-11 of the French Rural and Maritime Fishing Code, the Environmental protection operations in rural areas (Opérations de protection de l'environnement dans les espaces ruraux - OPEDER) ensure the implementation of the measures provided for at national level and in France's regional rural development programmes. The protection of flocks is defined by the decree relating to the OPEDER on the protection of sheep and goat herds/flocks against predation. Its funding is provided by the MAA with co-funding from the EAFRD within the framework of the PDR-Rs. This scheme is currently attributed to protection against predation by wolves and bears.

Regarding the wolf, it represented €22.5 million in 2016 (total State – EAFRD). The details per budget item of the expenditure in means of protection for the last 3 years are as follows:

- 78.5% for guarding (36% for the livestock farmer-shepherd and 43.5% for the salaried shepherd or the service);
- 10% for the pens/enclosures;
- 9.5% for the dogs (for 7 818 dogs);
- 1% for the vulnerability analysis.

There is no measure dedicated to flock protection under the aid framework; this scheme is attached to several measures of the rural development regulations (aids for investments and agri-environmental and climatic measures, which constrains the scheme since it must comply with the rules of these two measures).

The assessment of the implementation of this scheme also shows the need to adapt the decree relating to the OPEDER on flock protection to the 2014-2020 programme and to the change of management authority.

Another issue is the rate of the financial aid, which livestock owners wish to see increased. Indeed, the current rate of aid represents 80% of the cost of the guarding, dogs and pens/enclosures (the remaining 20% on average being borne by the livestock owner in this case) and 100% of the cost of the vulnerability analysis.

Finally, the experience acquired from the previous national wolf action plan (2013-2017) shows the significant efficiency of the salaried shepherd whose employment also contributes to improving the running of herds/flocks and to the local development of the territories.

2) Description of the actions

The details of these actions are the following:

- creation of a dedicated measure: **negotiation with the European Commission with a view to the creation of a specific measure** dedicated to flock protection, and negotiation with the European Commission with a view to the 100% coverage of the cost of the salaried shepherd;
- **updating of the decree on flock protection;**
- confirmation that **the OPEDER on "flock protection against predation" can be activated in communes defined by prefectural orders** delimiting the "circles" exposed to predation.

For the wolf, Circle 1 corresponds to communes where predation is proven and Circle 2 corresponds to areas where predation is likely. Circle 2 is necessarily contiguous to Circle 1. Predation is proven when acts of wolf predation have been reported in the previous two consecutive years.

In the absence of predation during 2 consecutive and completed years, areas classified as Circle 1 will be declassified to Circle 2, and areas classified in Circle 2 will no longer benefit from flock protection aid, unless they remain contiguous to Circle 1.

The eligible expenses are as follows:

1. Salaried shepherd or salaried service: rate of public aid of 100%.
In order to promote salaried guarding, changes should be made to the financial coverage of the livestock farmer-guard (lump sum), particularly for the flocks whose economic size enables the recruitment of salaried guardians.
2. Guard dogs (purchase and upkeep): rate of public aid of 80% (except behavioural tests for guard dogs, covered at 100%).
3. Electrified gathering pens and pasture enclosures: rate of public aid of 80%.
4. Vulnerability analysis: rate of public aid of 100%.
Vulnerability analysis on a farm-wide level: the terms of reference should be developed with regard to the implementation of technical support and analyses already carried out.
5. Technical support: rate of public aid of 100%.

In Circle 1 zones, at least 2 options among 1-2-3 must be subject to contracts; in Circle 2 zones, at least 1 option among 2-3.

The impact of predation on cattle farms remains limited. Nevertheless, some farms have experienced wolf attacks and an appropriate response to these situations should be provided. Support measures can be mobilised under the so-called "emergency credits" procedure. In this case, the DDT(M) will liaise with the MAA both to validate the actions to be undertaken and to make the necessary financial resources available.

3) Schedule

	2018	2019	2020	2021	2022	2023
Publication of the OPEDER decree						
Negotiation for a specific measure						
Evolution of the cost coverage						

4) Leader: MAA

5) Partners: MTES, DRAAF, DREAL

ACTION 1.2 Set up a "guard dog" technical network

1) Background

The flock guard dog is recognised as being an efficient means of flock protection. Nevertheless, it represents a significant constraint for livestock owners: neighbourhood disputes, cases of occasionally severe bites. Hence the complexity of the implementation and management of a dog and, a fortiori, of several dogs. The handling of guard dogs therefore requires a technical expertise for which livestock owners must be supported, advised and assisted.

The objective of this action is therefore multiple. The aim is to be able to:

- **secure and facilitate the use of guard dogs** that are effective against predation and non-aggressive towards other persons;
- **advise livestock owners on the implementation of guard dogs in their flocks;**
- **limit the problems related to the presence of dogs in the territories;**
- **structure the livestock guard dog sector in the medium term.**

2) Description of the actions

The aim is to create a network of referents to:

- gather knowledge, then organise and disseminate it to the local relays;
- disseminate expertise: training, development of tools;
- enable *in fine* individual or collective support for livestock owners: taking ownership of a dog, solving specific problems, training (proposal of 4 visits during the acquisition of a dog and support in the event of specific problems);
- promote the guard dog as a safe and effective protection measure;
- encourage the contractual hosting of puppies within flocks to foster appropriate training.

The network created will be composed of:

- 1 leader;
- 6 referents in charge of developing the training and its follow-up;
- a justified number of local referents ensuring individual follow-up: livestock owners, technicians of facilitation structures and chambers of agriculture.

This work will be carried out in collaboration with the local stakeholders: DDT and agricultural structures. Moreover, the opportunity to integrate "guard dog" nurseries can be offered to agricultural institutions.

As a second step, the sector structuring work will be established on the basis of this work.

3) Schedule

	2018	2019	2020	2021	2022	2023
Creation of the network						
Structuring of the sector						

4) Leaders: MAA MTES

5) Partners: IDELE, DRAAF, DREAL, DDT(M), OPA, veterinarians

ACTION 1.3 Establish an observatory for the efficiency of flock protection measures – resource centre

1) Background

The increase in predation during the two previous national wolf action plans raised concerns as to the effectiveness of the flock protection. For that reason, in 2015, the Ministry of Agriculture, in partnership with the Ministry of Ecology, led an assessment of the flock protection scheme: the Terroïko study. This assessment concluded that the protection measures were effective. Indeed, predation on protected flocks was lower than that on non-protected flocks. The study showed that in the colonisation fronts, the protection limited the frequency of attacks and the number of victims, and that, in areas with historical wolf presence, the protection limited the number of victims, and the frequency of attacks was variable according to the environment and the predation pressure. However, the study showed that, in some cases, the protection had efficiency limits, in particular according to the natural, pastoral and predation context.

In a context of increased predation, it is necessary to:

- continue to monitor the changes in protection practices and their effectiveness, as closely as possible;
- detect and locate the efficiency losses and identify their recurring or individual causes;
- assess the new means of protection, where appropriate, or specify the existing options, based on the data from the services, the feedback and the field expertise.

2) Description of the actions

The aim is to **create an observatory for the detailed and progressive diagnosis of flock protection**. The objective is to make this observatory an **alert tool for extreme predation situations** and possible anomalies between the protection level and the predation level.

To that end, this observatory implies that the software tools enable the geolocation of the attack and that of the protection to be superimposed with precision, on the basis of the protection contracts subscribed by the livestock owners. The purpose of this data collection is not to control but to evaluate the measure as a whole.

The results of the observatory will be made available to livestock owners and animation structures within the framework of agreements guaranteeing anonymity of the situations in order to adapt the technical support to the situations observed.

Furthermore, the observatory will be a **decision-making tool for the State and decentralised departments** to help advance public policies regarding flock protection.

The observatory will be designed as a resource centre.

3) Schedule

	2018	2019	2020	2021	2022	2023
Creation of the observatory						
Development of the observatory and use						

4) Leaders: MAA and MTES

5) Partners: DRAAF, DREAL, protected areas (including PNR), DDT(M), ONCFS

ACTION 1.4 Improve the efficiency of protection measures by financing a technical support scheme for livestock owners

1) Background

The assessment of the protection measures on the previous national wolf action plan (2013-2017) revealed the need for technical support for livestock owners to improve the efficiency of flock protection. Indeed, the presence of predators can imply an adjustment or a change to the herding method and to the production system, the training and use of guard dogs, and the implementation and use of anti-intrusion electric fences. Flock protection is therefore a complex operation that can have significant impacts on the farm: technical, financial and human, depending on the level of implementation (number and types of options) and according to the long-term maintenance of this protection. It is also more difficult in certain contexts, such as in mountainside or isolated environments, or flocks run in batches in lowlands.

2) Description of the actions

The aim is to be able to:

- **provide a consultancy service for livestock owners on the implementation of flock protection against predation by wolves and bears;**
- **provide support to livestock owners on the technical developments of protection;**
- **support livestock owners in the possible adaptations of husbandry systems;**
- **secure and facilitate the use of guard dogs that are efficient and non-aggressive towards other users of the natural area (see action 1.2).**

The technical support is individual. The training can be collective. Livestock owners or groups of livestock owners located in Circles 1 and 2 are eligible. The cost of the technical support is covered at the rate of 100% up to the limit of an expenditure ceiling of €2 000 for the entire programming period of the Common Agricultural Policy.

The service provider structure to provide the technical support will be chosen by the livestock owner among the facilitation or development structures that can demonstrate their competences or among veterinarians.

In parallel, a reflection process will be conducted to develop the "vulnerability analysis" tool by addressing the economic, social and environmental sustainability of the farms or of a territory.

3) Schedule

	2018	2019	2020	2021	2022	2023

4) Leaders: MAA and Regional Councils

5) Partners: DRAAF, DREAL, DDT(M), protected areas, Chambers of Agriculture, technical farming support organisations, veterinarians

ACTION 1.5 Establish a technical support team for the implementation of protection measures, in particular for newly attacked livestock farms

1) Background

Newly attacked livestock owners feel the need to be supported for the implementation of protection measures in their flocks.

Action 1. 4 provides for reinforcing the technical support for livestock owners from a general point of view.

Within this framework, it is appropriate to set up a specific support scheme in cases of newly attacked livestock farms.

2) Description of the actions

The aim of this action is to establish, within the general framework of the technical support and its funding provided for by the NAP, a **team dedicated to the implementation of the protection measures**, in particular in the newly colonised areas when the **first attacks on flocks appear**.

A **test phase** will be implemented in order to consider its subsequent deployment.

3) Schedule

	2018	2019	2020	2021	2022	2023
Test phase for the establishment of the technical support team						
Possible deployment if the results of the experimentation are favourable						

4) **Leaders: MAA, MTES, DRAAF**

5) **Partners: MTES, DREAL, protected areas including PNR, local authorities, OPA, technical farming support organisations, veterinarians**

ACTION 1.6 Experiment with the implementation of a mobile intervention scheme to support livestock owners and afford them assistance in significant attack outbreaks

1) Background

The study on the socio-economic impact of wolf predation (ACTeon, 2010) highlighted the socio-technical impact of the predation phenomenon on livestock owners: "incidences of predation have major consequences on men which can result in significant suffering". Moreover, livestock owners are sometimes powerless in the face of the workload needed to prevent or deal with the consequences of an attack. In this difficult context, it seems legitimate to experiment with the provision of experienced and mobile shepherd teams to assist the shepherds in need.

Following the very positive outcome unanimously observed by the ONCFS "wolf brigade", those teams of mobile shepherds could be the parallel, in terms of assistance to livestock owners, of the ONCFS brigade, deployed for the defence of flocks.

It is therefore important to experiment with such a support procedure before considering its larger-scale deployment. It is particularly relevant in that respect to call on a National Park, constituting an experimentation territory and, moreover, subject to rules prohibiting shooting interventions in the wolf population.

2) Description of the action

The aim of this action is therefore the **deployment of experienced shepherd teams** (guarding experience in predation contexts), equipped with herding dogs and means of transportation.

They will be able to:

- lend a hand to the livestock owners (replacement in case of setbacks, implementation of pens/enclosures, rounding up of flocks/herds, search for missing animals following an attack);
- capitalise on both positive and negative experiences, as operations are carried out.

On a daily basis, these teams will intervene:

- **"routinely"** in the daily implementation of the protection (real assistance for farms with two workshops: suckler herd and dairy herd, for example) and in terms of training on the commitments of the livestock owner as employer;
- **in "emergencies"** such as repeated predation and/or difficult situations.

These mobile shepherds can also help the shepherds to anticipate the wolf's arrival in neighbouring territories, where the species is likely to settle.

This action may be compared to the "support shepherd" intervention team in the Pyrenees with regard to the bear. The Pastorale Pyrénéenne association is responsible for its coordination.

These teams will be made up of experienced shepherds who can be joined by persons in civic service, in particular young trainee shepherds. This partnership will enable the sharing of experiences for a more efficient assistance to livestock owners, as well as a **promotion of the shepherd's profession through knowledge transfer** to the shepherds still in the learning process.

As a first step, this new scheme could be subject to a **3-year trial period**, in the Mercantour National Park. The recruitment of 2 to 3 shepherds and the management of their interventions could be entrusted to an agricultural or pastoral structure. The experiment could be extended to a territory of volunteer regional natural parks.

In time, if the experiment is favourable, 1 to 3 shepherds could be recruited by the national park territory from June to September. The supporting structure could preferentially be an agricultural structure.

3) Schedule

	2018	2019	2020	2021	2022	2023
Experimental phase						
Implementation in priority territories				If favourable results of the experiment		

- 4) **Leaders:** Mercantour National Park (or other project owner) for the experimental phase
- 5) **Partners:** Professional farming organisations and technical farming organisations, DDT(M), Local authorities, MTES and MAA

ACTION 1.7 Develop experiments with a view to the implementation of innovative protection and deterrent devices

1) Background

The efficiency and the limits of the protection measures were objectified by the research bureau Terroïko mandated by the MAA and the MTES in 2015. This work will be complemented by the results of the flock protection observatory. Furthermore, other studies and experiments aiming at improving the knowledge of the wolf and its interactions with agricultural activities and the environment are also provided for under the NAP.

Experiments have recently been carried out on the French national territory:

- fladries;
- auditory and visual deterrence: since 2003, the DDT 06 has experimented with several types of deterrents: radio activated sonic control devices, radio activated sonic control devices + bright LEDs, collars (several models) for ewes with bright LEDs, illuminated traffic signal lanterns;
- some livestock owners have developed techniques: kerosene lamps, fires, olfactory deterrents, alarm pistols, and so on.

Conclusions regarding the effectiveness of these experiments are hardly extrapolable in the absence of national terms of reference, and none of these systems has demonstrated lasting effectiveness in a situation of significant predation pressure.

The CEREMA recently conducted a bibliographic review of the various wolf detection and deterrence methods that could be used at the international and French levels. This study showed that heterogeneous results were achieved in terms of effectiveness of the different methods used. At best, the means used demonstrated short-term and medium-term effectiveness. Nonetheless, it seems relevant to encourage the pursuit of such experiments within a rigorous framework allowing for a serious assessment of the effectiveness of the methods used and to specify the conditions necessary to maintain this effectiveness over the long term by taking account of the wolf's habituation capacity.

The needs for experiments have already been identified:

- **electrification of existing wire fences** with electrical wiring (the current recommendation is to place one wire on the top and another at the bottom of the fence; other installations could be trialled, such as the bottom wire inside);
- working on fences, including for large enclosures; potentially creating hard-standing enclosures with large surface areas, featuring **3-metre high fences** enabling the livestock breeder to keep his animals safe and therefore to rest at night;
- **marking mountain pastures with wolf scats** from very distant packs to simulate their presence;
- **guard dogs**: to be assessed with the dog network;
- **dedicated non-lethal weapons** (outside protected areas).

The national parks (PN), regional natural parks (PNR) and natural reserves (RN) have offered to act as experimentation territories by mobilising volunteer livestock owners.

2) Description of the action

The aim is to:

- **identify and prioritise the needs** in liaison with the GNL and the scientific committee of the NAA;
- draw up **national terms of reference for innovation and experimentation** whose use will be required for the State funding of the experiment;
- **select the eligible projects and decree their funding**;
- **launch the experiments selected in the volunteer protected areas.**

3) Schedule

	2018	2019	2020	2021	2022	2023

4) Leaders: MAA, MTES

5) Partners: MTES, protected areas - including PNRs -, local authorities, socio-professional and associative organisations

ACTION 1.8 Acquire improved knowledge about wolf ethology in the agro-pastoral system

1) Background

Whereas it has been proven that flock protection measures have an undeniable effectiveness in preventing or reducing wolf attacks, questions remain regarding the determinism of predation according to the contexts.

The scientific studies conducted by the MNHN and ONCFS demonstrate the need to gain knowledge about wolf ethology in predation situations so that the lessons learned can be implemented for the deployment of protection measures adapted to the predation context specific to each situation.

Protected areas, including PNRs, are experimentation areas for the implementation of such studies.

These studies must make it possible to acquire fundamental knowledge about wolf ethology in predation situations, as well as practical applications in the field.

2) Description of the actions

2-1) The first study aims at understanding the mechanisms of attack outbreaks through a better understanding of dispersal of individuals, parentage, and territorial boundaries of the packs and the mode of use of the pack's territory to explain and understand the wolf's depredatory behaviour.

It consists of implementing a capture-mark-recapture programme through the gathering of presence signs and genetic analyses (period considered: six years).

Based on the terms of reference drawn up in partnership with the specialists of the PAD unit from ONCFS, the agricultural profession and nature protection associations, this programme could be implemented in the department of Alpes-Maritimes (first department concerned), in connection with the structures that have strong experience: Mercantour National Park, ONCFS, DDTM 06, including the local OPAs.

This programme must enable the collection of concrete data on several points which are fundamental in the analysis of predation behaviours:

- spatial and temporal distribution of individuals and packs (it is essential to understand how the packs use their territory throughout the year and whether this is relatively stable or fluctuating from year to year. It is also necessary to better understand interactions between the different packs);
- interannual population fluctuations (in order to establish whether the packs are stable from year to year, to assess the reproductive success and the dispersal of young animals and, where appropriate, the impact of shooting on these demographic parameters) ;
- boundary of the pack territories;
- predation pressure around the flocks;
- analysis of the diet, of wild and domestic prey availability and of the carrying capacity of our country (It is important to determine the diet of the wolves: balance between the share of domestic fauna and the share and type of wild fauna consumed). The last existing data on French packs date back more than ten years. This study could be conducted on two packs targeted according to very different wild/domestic availabilities. It is possible to take as an example territories where wolves can have access to sheep almost all year round and others where the sheep are transhumant and are on the site only during the grazing season);

- presence of erratic wolves (estimation of their presence and proportion) and responsibility for predation;
- taking into account the presence of wildlife in these observations, reports, and analyses.

2-2) The second action aims at gaining knowledge about depredatory behaviours during expert missions so as to search for and implement solutions in the face of recurring predation outbreaks and new situations of wolf presence.

This action is intended to provide livestock owners with expertise and personalised support to adapt their practices and implement means of protection adapted to the pastoralism/predation context. With the assistance of the national and regional natural parks, a trial will be carried out with volunteer livestock owners, particularly in recurring predation outbreaks and colonisation fronts.

For this purpose, specialised service providers will be mobilised to:

- make a diagnosis of the alpine pasture, the pastoral system and the predation context (factors of vulnerability, protection level, "local depredatory habits" of the wolves, behaviour of the guard dogs, etc.) Night observation cameras and GPS collars for dogs could be used;
- provide individual advice on pastoral management and on the implementation of protection measures to reduce attacks;
- monitor the effectiveness of these measures over time.

Concrete example of a situation experienced on an alpine pasture in the Mercantour National Park: the analysis, at night, with night vision binoculars, led to the installment of a 100-metre fence, uphill of a flock facing regular attacks. This fence, at this place, enabled predation acts to be suppressed, the wolf having been hindered to the point of not seeking to approach the flock in another way.

This experimentation on concrete cases will make it possible to acquire knowledge of the depredatory behaviours of the wolf. Each case will be subject to an in-depth analysis in order to draw, if possible, conclusions on the wolf's predation behaviour and on the management of attack outbreaks and new predation situations.

Means to be implemented:

- draft terms of reference for the diagnoses in partnership with the agricultural profession, the PNs and RNFs. This experimentation would also be possible for a PNR. It will be specified:
 - that, in the first instance, this will be implemented in test areas (contexts representative of husbandry systems and predation situations, in particular colonisation fronts, recurring attack outbreaks);
 - that interested livestock owners will be able to mobilise the targeted EAFRD credits for vulnerability analyses;
 - that a monitoring programme will make it possible to assess the effectiveness over time.
- launch a call for tenders;
- identify livestock farms benefiting from the expertise on the basis of the livestock owners' volunteering and the representativeness of the predation contexts.

3) Schedule

	2018	2019	2020	2021	2022	2023
Sub-action 1						
Sub-action 2				assessment		

- 4) Leaders: PN, RN and service providers chosen following the call for tenders
- 5) Partners: Agricultural profession, nature protection associations, DDT(M), ONCFS, MTES and MAA

ACTION 1.9 Improve the attractiveness of the shepherd's profession and its recognition

1) Background

The salaried shepherd has skills that are sometimes not recognised, such as for example: knowledge of the socio-economic context of the alpine pasture and of pluriactivity in the mountains, knowledge of stakeholders, relationship with livestock owners and other users of the mountain pasture, flock/herd management and animal care, knowledge of the natural environment, management of life in mountain pastures, and in some cases guarding against predators. The salaried shepherd contributes to the local development of territories, which is encouraged. Therefore these skills deserve to be recognised and promoted.

Furthermore, livestock owners sometimes encounter difficulties and may need assistance in recruiting and sustaining the shepherd's employment from one year to the next.

It is therefore necessary to recognise the shepherds' skills through qualification, and to ensure and facilitate the sustainability of their hiring.

2) Description of the actions

The aim is to:

- conduct an inventory and analysis of the available training and qualifications for shepherds;
- adapt the training and qualifications for flock protection against predation;
- improve administrative conditions for hiring shepherds;
- provide support for the national organisation of a shepherds network.

3) Schedule

	2018	2019	2020	2021	2022	2023

4) Leader: MAA

5) Partners: DRAAF, DDT(M), DGER and Mutualité Sociale Agricole (Agricultural Mutual Assistance Association)

ACTION 1.10 Adapt the regional aid schemes for pastoral equipment to optimise flock protection in partnership with local authorities.

1) Background

In many cases, pastoral equipment is a determining factor for pastoral activity to take place satisfactorily. It enables the zootechnical management of flocks/herds in line with the requirements of production and use of fodder resources. It facilitates this exploitation by providing livestock farmers and shepherds with the means of living close to their flock/herd and to carry out the various tasks required in the management of flocks/herds. This pastoral equipment is key to ensuring the comfort of livestock farmers and shepherds in environmental farming conditions that are often difficult.

The presence of the wolf in such farming territories reinforces the **need for pastoral equipment** which is a useful complement to the flock protection measures and which often contributes to their expected efficiency in terms of predation control.

Whereas the implementation of flock protection measures falls within a national framework, the measures concerning pastoral equipment are in the remit of the PDR-R. It is important, within the NAP framework, for local authorities to be widely involved to facilitate the installation of pastoral equipment that meets the economic requirements and is capable of adapting husbandry systems to environmental factors, including the presence of the wolf.

2) Description of the actions

Complementing the action 1B.1, the aim, via the PDRRs, is to:

- **improve the living conditions of shepherds;**
- **enable the adaptation of mountain pastures in terms of equipment** (servicing, water sources, pastoral huts, and so on);
- **make changes to the financial regulations.**

The regional prefects and their services (DRAAF and DREAL), in conjunction with the prefect coordinator, will work with the regional authorities so that means to strengthen support for local authorities, pastoral organisations and livestock owners can be implemented for the installation and renovation of pastoral equipment.

These actions will concern in particular protected areas which are territories where the sustainable development of pastoral activities is a major objective. They are warranted especially in protected areas which are subject to restrictions in terms of intervention on the wolf population.

3) Schedule

	2018	2019	2020	2021	2022	2023

4) **Leaders:** Regions, DRAAF, DREAL, protected areas, DDT(M)

5) **Partners:** Communes, CA, OPA, technical farming organisations

ACTION 1.11 Reinforce flock protection in attack outbreaks

1) Background

For the 2013-2016 period, 15% of territories totalled 60% of attacks and 3% of the livestock owners totalled 30% of attacks. We can therefore speak of attack outbreaks.

In these areas, livestock owners can face real technical difficulties for the implementation of protection measures. Technical support should be put in place to help the livestock owners in these situations.

On the other hand, in such circumstances, some livestock owners have not contracted protection measures.

2) Description of the actions

In attack outbreaks, the department prefect will promote the establishment of **appropriate technical support** for livestock owners.

In these situations, when flocks can be protected, the measures must necessarily be implemented. In particular, in these attack outbreaks, by applying the principle of the prior implementation of protection measures in order to be entitled to receive compensation, **the flock protection measure will be mandatory to receive compensation payments from the first attack.**

3) Schedule

	2018	2019	2020	2021	2022	2023

4) Leaders: DREAL, DRAAF, DDT(M)

5) Partners: OPA, CA, technical farming support organisations, veterinarians, MTES and MAA

ACTION 1.12 Ensure that the protection measures are implemented according to the commitments set forth in the contractual arrangements for flock protection to guarantee the anticipated level of efficiency.

1) Background

In order to ensure the effective protection of the flocks, the contractual arrangements must state in sufficient detail the conditions for flock protection at the technically expected level.

The flock protection options subscribed to by a livestock owner must guarantee this level of efficiency. Failing that, the contractualisation of a protection measure that is insufficient alone to properly control predation may have no real effect if it is not adjusted to the technically expected level (for example, sufficient number of dogs to keep a flock/herd) or combined with another measure to ensure real effectiveness.

Furthermore, **the contracted measures must be subject to monitoring** of their implementation to ensure that the contractual commitments of the livestock owner are followed through.

2) Description of the actions

The first action consists in revising the flock protection scheme to ensure greater efficiency while ensuring continuity with current measures, greater latitude in the choice of the technical directions adopted by the livestock owners and compliance with a minimum set of rules. In particular, the principle according to which, in Circle 1 zones, the contractualisation of the protection measure includes **at least two means of protection will be maintained among the following three: guard dogs, fences or night-time gathering, guarding or surveillance**. For the current programming, the measures selected will have to be compatible with the rural development regulation in force. Experimentation with new protection measures or devices will be promoted.

Finally, the procedures for controls of the protection measures in the field will be examined by a working group in order to adapt them to the situations encountered and direct them towards those where a recurring lack of efficiency is reported by the observatory of protection measures provided for in action 1.3. The controls implemented under the sustainable development regulation will have to be linked with those on the prior implementation of protection measures in order to receive compensation, as provided for in action 3.1.

3) Schedule

	2018	2019	2020	2021	2022	2023
Examination of the technical conditions for contractualisation						
Definition of the control procedures						
Implementation of the new provisions						

For the measures requiring a change in the European regulatory framework: implementation at the entry into force of the new sustainable development regulation.

4) Leaders: MAA, MTES, DRAAF, DREAL coordinator

5) Partners: OPA, agricultural development organisations



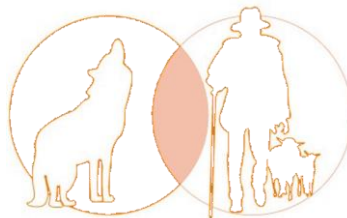
APPROACH 1S

INCREASING SUPPORT FOR PASTORALISM

The societal, economic, environmental and cultural importance of pastoralism is universally recognised, and measures to support pastoralism make it possible to facilitate the dynamism of the sector as evidenced by the experience of the Pyrenean PSEM. Such a plan will be implemented in the Alps. As in the Pyrenees, this plan to support pastoralism will be co-funded by the EAFRD, the ERDF, the MAA and the French National Territorial Planning and Development Fund (Fonds National d'Aménagement et de Développement du Territoire) and the regions.

ACTIONS

1B.1 Increasing support for pastoralism



ACTION 1B.1 Increasing support for pastoralism

1) Background

The experience gained in implementing the PSEM in the Pyrenees demonstrated the appropriateness of such an approach which makes it possible to **strengthen the economic vitality of stock-rearing activities, which take place under often difficult operating conditions**. The presence of the wolf leads to additional particular adaptations; therefore it is legitimate to reinforce the economic resilience of the livestock farms confronted with this. The aim is to draw on the rural development measures set out in the rural development programmes: under certain conditions, the State can intervene as "national" funder for actions backed by the PDRR (for example: participation in the funding of pastoral huts for the accommodation of shepherds).

2) Description of the actions

This plan will include the following actions:

1. Promote agricultural employment and installation

- support the management of flocks/herds: train the livestock farmers and shepherds, support guarding;
- fund pastoral huts, access to water and electricity to offer shepherds better accommodation conditions;
- support pastoral and land tenure outreach: collective actions of tool mobilisation or agricultural land-control initiatives;
- fund studies.

2. Increase wealth through the production and processing of quality agricultural products

- support the zootechnical pastoral performance;
- support the structuring and development of agricultural production and local supply chains;
- develop agri-food production activities within the framework of interregional and transnational cooperation;
- support approaches related to the emergence and structuring of official quality and origin certification (SIQO) and the territorialised quality or local identity organic approaches.

3. Foster growth through knowledge, research and innovation

4. Foster collective initiatives

Assistance in the creation of pastoral groups, economic and environmental interest grouping (GIEE), cooperative for the use of agricultural material (coopérative d'utilisation du matériel agricole - CUMA), etc.

The aim is to support collaboration and exploitation experiences between agriculture and other sectors of activity.

3) Schedule

	2018	2019	2020	2021	2022	2023
Implementation of the Alps and Massif Central PSEM	within the current framework of the PDRR	within the current framework of the PDRR	within the current framework of the PDRR	new programming	new programming	new programming

4) Leader: MAA

5) Partner(s): European Union (EAFRD, ERDF), French National Territorial Planning and Development Fund (Fonds d'Aménagement et de Développement du Territoire) and Regions, MTES, local authorities



APPROACH 2

REINFORCING THE DEPARTMENTAL STEERING OF THE NATIONAL WOLF PLAN IN COOPERATION WITH THE PREFECT COORDINATOR

On French territory, public policy relating to the presence of the wolf and its interactions with human activities and the environment is managed at different territorial levels: national, regional, departmental. At these different levels, the definition and implementation of public action is based on consultations conducted with the various players so that they can understand the objectives pursued and contribute to the efficiency of the actions undertaken in the field.

At the regional level, since 2004, the prefect of the Auvergne-Rhône-Alpes region has been appointed as the "national prefect coordinator" of the public action concerning the wolf and its presence in the territory. On 22 August 2014, the Minister for Ecology, Sustainable Development and Energy and the Minister for Agriculture, Agrifood and Forestry, signed an engagement letter to the attention of the prefect of the Auvergne-Rhône-Alpes region, specifies his missions.

In order to guarantee the overall coherence of the scheme, he is the first point of contact for the department prefects concerned by the wolf's presence. Within this framework, he provides them with all the necessary support. Moreover, he supervises the proper implementation of the measures decided at national level (in particular those of the NAP) in all the territories concerned.

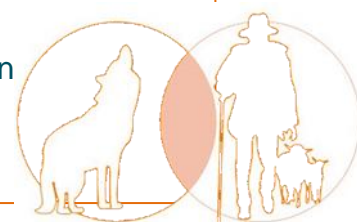
The application of the public policy on these different scales is essential because of the importance of the local contexts in the phenomenon of wolf predation on domestic flocks. It is essential to take these local contexts into account for a relevant implementation of the actions to control predation on the territories.

Protected areas are territories where actions promoting biodiversity are carried out and where pastoral activities contribute to their environmental quality. The actions carried out in these areas must support pastoralism in its adaptation to the wolf's presence.

Given the stakes related to the presence of the wolf in the territories, mediation activities between the various players, especially in the case of difficult situations, must contribute to resolving the difficulties encountered.

ACTIONS

- 2.1 Reinforce the steering of the plan in colonisation fronts
- 2.2 Reinforce the steering of the plan in predation outbreaks, concentrated predation areas
- 2.3 Establish conditions for mediation in the departments concerned by the wolf's presence
- 2.4 Develop technical support in protected areas (without detriment to the conduction of experimental operations)
- 2.5 Better manage stray dogs



ACTION 2.1 Reinforce the steering of the plan in the colonisation fronts

1) Background

The colonisation fronts can be particularly sensitive territories in the face of wolf attacks. Indeed, predation is a recent phenomenon in these territories, a phenomenon for which the stakeholders are unprepared (especially with regard to the implementation of flock protection measures).

It therefore seems relevant to implement specific management in these areas, in order to be able to take into consideration all the particular problems attached to them.

It should be emphasised that knowledge of the future colonised areas is particularly difficult to anticipate. Indeed, the colonisation system "by patches" is characteristic of the wolf: the new territory colonised is not necessarily contiguous to an area already occupied. It can be separated by vast distances, leaving interstitial areas that can be filled at a later stage. Dispersing individuals may remain in an area for several months before leaving it. Hence, reports of wolves in a region between March and November do not mean that a pack is permanently established.

The steering of the plan in colonisation fronts must take this ecological fact into consideration and nonetheless show sufficient reactivity to anticipate predation situations and manage them when they arise.

2) Description of the actions

1/ Establish a watch unit headed by the prefect to better support local stakeholders, particularly livestock owners

In the departments adjacent to the areas already colonised, a watch unit will be set up, coordinated by the department prefect. This unit will include representatives from technical, socio-professional and associative organisations concerned by the wolf.

It will be a place for sharing information regarding experiences acquired in the colonised territories and analysing the impacts of the wolf's arrival in the new territories, in view of its particularities (in particular regarding the specificities of the livestock farms' operating systems). These approaches will make it possible to disseminate high-quality information, and to propose the reactive implementation of measures adapted to the local context.

2/ Inform and train livestock owners

This training and information will aim at enabling livestock owners to benefit in a reactive manner from the various measures provided for by the NAP.

Moreover, a support team can also provide support for newly attacked livestock owners: technical assistance for the installation of the protection measures according to the pastoral context and for the adaptation to potential changes in the running of the flock/herd (see action 1.5).

3/ Implement adapted management in some colonisation fronts to safeguard pastoral activities

In some colonisation fronts, the areas where, owing to the herding methods, the implementation of flock protection measures against wolf predation presents significant difficulties, will be defined by prefectural order. In these areas, the management will aim to slow the expansion of the wolf. Hence, defensive shooting and culling by shooting may be authorised with no prior flock protection measure and under appropriate conditions as detailed in the action 5.2.

3) Schedule

	2018	2019	2020	2021	2022	2023
Sub-action 1						
Sub-action 2						
Sub-action 3						

4) Leaders: Department prefect and DDT

5) Partners: Prefect coordinator, DREAL and DRAAF Auvergne-Rhône-Alpes, protected areas, technical, socio-professional and associative organisations

ACTION 2.2 Reinforce the steering of the plan in predation outbreaks, concentrated predation areas.

1) Background

Predation pressure is a phenomenon exhibiting strong spatial heterogeneity. Indeed, in an area occupied by wolves, the frequency of attacks on flocks varies widely from one pastoral unit to another and also from year to year. Hence, predation can be concentrated in some spatial units. It is thus possible to **delimit**

"predation outbreaks", where a large proportion of attacks is concentrated. At

the end of 2017, these attack outbreaks were located mainly in the Alpine mountain range.

In these territories, some livestock owners also experience a large number of attacks on their flock/herd, making the predation pressure uneven depending on the farms.

These predation outbreaks raise many problems:

- from a technical viewpoint: the attacks have multifactorial causes, making their mitigation very complicated;
- from a psychological viewpoint: these situations are hardly bearable for the livestock owners who face them, due to the recurrence of attacks, each of which constitutes a traumatic event;
- from an economic viewpoint for the livestock owners.

The NAP therefore provides for a **reinforcement of the support measures for livestock owners in these attack concentration areas**, based on a monitoring of these situations.

2) Description of the actions

1/ Create a monitoring committee

On the initiative of the department prefects, a departmental committee is to be set up in the areas that are already colonised. It should bring together all organisations and institutions concerned, elected officials and experts; the representatives of the prefect coordinator will participate as necessary.

Within this departmental committee, the prefect sets up a monitoring committee responsible for monitoring the **efficiency of the protection measures** (based on data provided by the observatory of protection measures) **and of the prevention and management of attack outbreaks**. In addition to its role in supporting the administration, this monitoring committee has two advantages:

- to create conditions for meaningful dialogue between the departmental stakeholders concerned, in particular on the topic of the difficult situations encountered by livestock owners;
- to encourage the emergence of shared technical positions and the best possible solutions for handling difficult situations.

The unit will be able to rely on the DREAL and the DRAAF coordinators of the NAP.

2/ Set up a programme of specific actions to reduce predation: mobilise technical expertise, assess the protection measures in place, the implementation of the protocol and the possibilities for adapting the livestock farms

A programme of specific actions will be set up in the predation outbreaks; depending on the context encountered, it will include all or some of the actions the general modalities of which are described in the different approaches of the NAP.

This programme may include measures relating to the development of tools for the anticipated detection of predation outbreaks, protection measures, pastoral investments (huts, water point, clearing and so on) or management of the local wolf population, if the protection and support measures prove to be insufficient to significantly reduce the high volume of predation.

A report on these situations is submitted annually to the prefect coordinator who will report to the two ministries concerned.

3) Schedule

	2018	2019	2020	2021	2022	2023
Sub-action 1						
Sub-action 2						

4) **Leaders:** Department prefect and DDT

5) **Partners:** Prefect coordinator, Auvergne-Rhône-Alpes DREAL and DRAAF, protected areas, technical, socio-professional and associative organisations

ACTION 2.3 Implement the conditions for mediation in the departments affected by the wolf's presence

1) Background

The presence of the wolf in territories can be a source of many questions and fears on the part of all those concerned. It can lead to difficult situations for livestock owners whose flocks are subject to attacks.

The difficulties encountered can lead to situations of high tension resulting in a breakdown of dialogue which does not enable the exchange of views and the sharing of the difficulties encountered.

In this context, it seems essential to **create the appropriate conditions for positive communication between stakeholders at the different territorial levels**. At the departmental level in particular, difficult situations must be managed not only technically but through appropriate mediation that can allow for dialogue between stakeholders and facilitate the emergence of solutions.

These issues were highlighted by the collective scientific expert assessment conducted by the MNHN in 2016/2017.

2) Description of the actions

Mediation between stakeholders will be ensured on several scales. At the national and departmental levels, emphasis should be placed on the determining roles of the **French National Wolf Group (Groupe National Loup - GNL)** and the **Departmental Wolf Committees** whose roles are addressed in Part III of the NAP "Oversight"; they will not be recalled here.

In order to ensure the conditions for good mediation at the departmental level, in particular if tense situations between the various stakeholders appear, the prefect together with the departmental committee on the wolf can entrust the role of mediator to volunteering structures or persons who know the subject matters well and whose listening and dialogue skills are recognised.

The agents responsible for drawing up the reports on attacks will be made aware of the role they can play during these visits in terms of listening and sharing with the livestock owner whose flock has been attacked.

A support and assistance scheme for livestock farmers confronted with wolf predation will be set up through the establishment of an agreement with the agricultural mutual assistance association (Mutualité sociale agricole - MSA) as part of its farmer support actions.

Owing to their knowledge of both the territories and the players, protected areas can be appropriate structures to conduct mediation missions with their staff. For example, **meetings** can be organised on the scale of a protected area in order to allow exchange and dialogue on difficult situations. Actions allowing for a better reciprocal and supportive recognition between the various parties (associated with follow-up and restitutions, mutual aid, situational visits, and so on) can also be established.

Such groups can also be set up in the colonisation fronts and attack outbreaks. The recourse to **external experts** to help coordinate these groups can be considered depending on the situation.

Actions for **mediation training** can be organised (see action 6.2).

In the mid-term assessment, special attention will be paid to the effects the new actions in terms of mediation.

3) Schedule

	2018	2019	2020	2021	2022	2023

4) Leaders: Department prefects, Protected areas

5) Partners: Socio-professional and associative organisations, veterinarians, agricultural and rural development organisations

ACTION 2.4 Develop technical support in protected areas (without detriment to the conduction of experimental operations)

1) Background

Protected areas are areas with specific characteristics that must be taken into account. These places:

- are isolated and peaceful;
- provide protection and respect for wildlife;
- must serve as a behavioural model as regards our environment.

In these protected areas, pastoral activity is often of major importance: apart from its economic character, it contributes to the preservation of biodiversity and landscapes.

Accordingly, **protected areas must be priority territories for research and experiments** to develop new solutions for improving flock protection and to support livestock owners and shepherds in the guarding. The solutions can then benefit the whole national territory.

Hence, **technical support for livestock owners can really be a priority in these territories**, which owing to their characteristics, exclude the implementation of the technical protocol for intervention in the wolf population (with some exceptions depending on the areas).

2) Description of the action

A framework for actions that can be set up in protected areas will be established, in particular providing for **the improvement of pastoral equipment, technical support for livestock owners** for the implementation of protection measures, **reinforced support in the case of attack outbreaks** (without prejudice to the development of mediation and communication and to the conduction of experiments and studies which constitute actions mentioned in other sections of the NAP and which can be implemented by protected areas).

For example, with regard to the improvement of guarding conditions for shepherds and shepherd assistants, the following actions can be implemented:

- supporting communes lacking engineering capacity in actions undertaken to rehabilitate or build perennial pastoral huts and to improve the pastoral infrastructures (watering point, night gathering fence, and so on) so that they can be able to submit an EAFRD co-funding file within the framework of the PDR-Rs;
- making available helicopter-accessible emergency huts, on a temporary basis, on non-equipped mountain pastures, in order to reinforce the presence of shepherds and shepherd assistants near the flock/herd following attacks.
- developing prototypes of secondary huts at an acceptable cost; an initiative already launched by the Vanoise National Park to develop a prototype.

The action will be applied in protected areas according to the available credits and the agreements obtained within the framework of the governance of these protected areas. The action programmes will be the subject of a memorandum for the transfer of experience to other territories.

3) Schedule

	2018	2019	2020	2021	2022	2023

4) Leaders: PN, RN and PNR

5) Partners: OPA, local authorities, DDT(M)

ACTION 2.5 Better manage stray dogs

1) Background

Stray dogs can cause damage to domestic flocks in the same way as wolves. However, it can be difficult for the agents responsible for wolf damage reports to be able to differentiate between a wolf attack and an attack by a stray dog.

Questions therefore emerge as to the responsibilities attributed to each of these species.

Furthermore, the issue of stray dogs is also related to the subject of hybridisation between the wolf and the dog; the hybridisation phenomenon was assessed in France by ONCFS and has been shown to be marginal. Action 4.2 of the NAP provides for the monitoring and management of this phenomenon. The controlling of stray dogs must also contribute to preventing hybridisation risks.

Under the French Rural and Maritime Fisheries Code, the mayors have a police power aimed at preventing the wandering of dogs and at handling stray dogs.

2) Description of the action

The aim is to reinforce the actions to prevent and manage stray dogs in the wolf's presence range and in areas likely to be soon colonised. This action will be defined and implemented in close cooperation with the local elected officials (in particular mayors).

This involves mobilising in the first place the mayors who have the regulatory power of intervention, by involving also the prefects and their services (in particular the DDPPs). An information and awareness-raising campaign will be launched for this purpose. This information campaign will also target the general public.

In addition, in several departments where the wolf is present, the implementation of a warning device when stray dogs are observed will be trialled. This approach should make it possible to objectify the phenomenon and contribute to controlling the wandering of stray dogs by mobilising the intervention powers of the mayors as soon as they are informed about the situations. The experiment, spanning three years, will make it possible to draw conclusions so that the scheme to prevent and control this phenomenon can be extended.

3) Schedule

	2018	2019	2020	2021	2022	2023
Information / awareness-raising						
Warning device trial						

4) Leaders: ONCFS, DDT(M), DDPP, department prefects, mayors

5) Partners: MTES, MAA, Auvergne-Rhône-Alpes DREAL and DRAAF

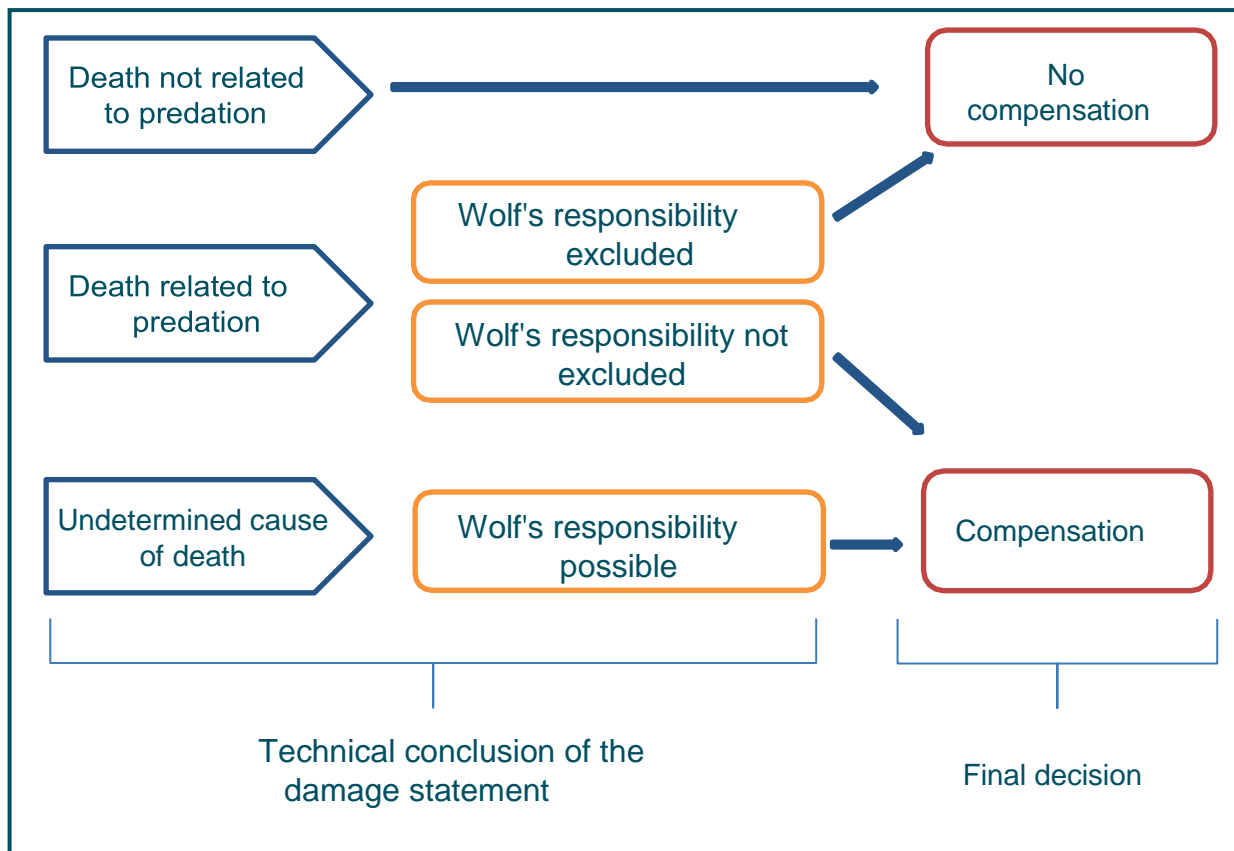


APPROACH 3

DAMAGE COMPENSATION

Compensation for damages due to the wolf is a voluntary approach by the State, financially backed by the MTES via a delegation to the ASP and governed by ministerial circular, within the framework of a national procedure implemented in 1993.

This procedure is based on the systematic drawing up of a damage report when wolf predation is suspected. The procedure is the following: the livestock owner who has incurred damage contacts the DDT(M), which informs the organisation responsible for damage reports (ONCFS, PN, etc.) so that a qualified agent can visit the livestock owner to draft the report. The report is then sent to the DDT(M) which issues a technical conclusion. Whether or not compensation is issued will depend on this conclusion, according to the following diagram:



The damage compensation for "cause of death related to predation, wolf's responsibility not excluded" covers three elements:

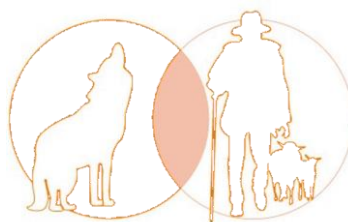
- 1) **direct losses which correspond** to the value of replacement of injured or killed animals identified according to an established scale which must be regularly updated;
- 2) **animals that have disappeared** during an attack (missing animals);

- 3) **indirect losses which correspond** to the compensation for production losses of the flock/herd related to the stress caused by an attack (abortion, weight loss, decrease of lactation).

The actions in the NAP aim to take into account the new European requirements in terms of compensation for damage due to large predators, to revise the compensation procedures according to objective data relating to the losses encountered by livestock owners, and to gradually develop the system of damage declaration by the livestock owner in order to simplify the compensation procedure.

ACTIONS

- 3.1 Apply the new terms and conditions for the compensation of damage to domestic flocks
- 3.2 Develop the deployment of the declarative procedure for damage reports, on the basis of the livestock owners' volunteering



ACTION 3.1 Apply the new terms and conditions for compensation of damage to domestic flocks

1) Background

Until now, livestock owners affected by predation by wolves on the flock/herd were compensated even if no protection measure had been implemented. Only a compensation amount differential was provided for. In a way that is progressive and adapted to the situation of the livestock farms (length of the colonisation, intensity and frequency of attacks), the compensation received by the farmers whose flocks have been attacked will now be subject to the prior implementation of protection measures.

The objective of this action is twofold:

1) to ensure the **appropriate implementation of protection measures**. This principle can be seen as an incentive measure for the deployment of protection measures.

2) **to meet Community requirements**. Indeed, the Agricultural Guidelines of the European Union stipulate: "A minimum counterpart from the beneficiaries [of the subsidies intended to remedy the damage caused by protected animals] is requested to mitigate the risk of distortions of competition and to provide an incentive for minimising risk. This compensation must take the form of reasonable preventive measures, such as safety fences where possible, livestock guarding dogs, which are proportionate to the risk of damage caused by protected animals in the area concerned." (European Union Guidelines for State aid in the agricultural and forestry sectors and in rural areas 2014 to 2020, 201/C 204/01, point 1.2.1.5).

Furthermore, the compensation scales were set by the ministerial circular of 27 July 2011. Several years after their setting, it is therefore legitimate to **revise these compensation procedures to take into account the market price developments and the new contexts** of predation.

Furthermore, the compensation procedures for damages due to large predators are different depending on the species (wolf, bear, lynx) whereas the wolf colonises the territory of other large predators. The same applies for the procedures for compensation examination and payment. It is relevant to harmonise all these procedures.

The compensation conditions must be subject to continuous monitoring in order to regularly adjust them to take account of the cost developments and new knowledge in terms of impact on the economy of livestock farms.

2) Description of the action

The aim is to be able to:

- continue the compensation for wolf-caused damage funded by the budget of the MTES;
- harmonise the compensation procedures for damage caused by wolves, bears and lynxes;
- re-examine the compensation scales (direct losses) by taking into account the herding conditions for indirect losses and missing animals;
- streamline the aid schemes: compensation will be paid upon verification of the implementation of flock protection measures and according to the wolf presence dynamics. The inspection will be performed routinely and not when drawing up the damage report.

The requirement of flock protection in order to receive compensation will be implemented in a manner that is proportionate, progressive and adapted to the length of the colonisation by the species and to the level of attacks on the flocks.

Moreover, the regime introduced must not impose an excessive general constraint that would be added to the conditions for CAP subsidies. For example, the requirement of implementation of protection measures could only be applied above a certain number of attacks per year on the same flock and beyond a specified number of years of regular presence.

The definition of the conditions for applying these procedures will be pursued with the OPAs.

This scheme will integrate the principle according to which, in Circle 1 zones, the contracting of the protection measure includes at least two means of protection among the following three: guard dogs, fences or night-time gathering, guarding or surveillance.

The further details to be laid down in the new ministerial circular will result from the work of a working group composed of representatives from OPAs, APNs, State services and public institutions.

A charter for controlling the implementation of protection measures on the batch or the flock, subject of the contract, will be co-drafted with the OPA representatives.

This working group will also examine the compensation scales that could be selected according to the duly recorded market prices, in order to best adjust the scales according to the economic context.

A single procedure for the report, investigation of compensation claims and payment will be established for the three large predator species.

Furthermore, according to the results of the study on so-called "indirect" losses which is to be carried out (see action 7.3), the compensation procedures will be adjusted, if necessary, in the next NAP.

Likewise, the advantages and disadvantages of a flat-rate compensation for missing animals will be assessed based on concrete situations (reduced waiting time for compensation against a better financial coverage for livestock owners).

Finally, a reflection, together with the organisations concerned, will be initiated for the evolution of the compensation system and the protection measure in order to simplify the scheme and associated administrative costs.

To facilitate this reflection, a joint mission of the General Council for Food, Agriculture and Rural Areas and of the General Council for the Environment and Sustainable Development will be set up to examine in the first instance the feasibility and the modalities of an experimentation with an insurance type system to provide financial coverage for wolf-related damages.

3) Schedule

	2018	2019	2020	2021	2022	2023
1/ Drafting and publication of regulatory instruments						
2/ Implementation						

4) Leader: MTES

5) Partners: MAA, DREAL, DRAAF, DDT(M), ONCFS, ASP

ACTION 3.2 Develop the deployment of the declarative procedure for damage reports, on the basis of livestock owners' volunteering

1) Background

The damage reports, necessary prerequisites for any possibility of compensation, are usually made out by qualified agents, trained by ONCFS in the collection of technical data specific to damage reports.

However, for some attacks, a declarative reporting scheme has been approved by the Ministry of the Environment.

A first experimental declarative damage reporting scheme was set up in 2013 in the Dévoluy, where some reports could therefore be drawn up in a simplified manner by the livestock owners themselves. Over the years, this scheme has been gradually extended to other communes of the Hautes-Alpes department. Hence, in 2015, 48 reports were made solely based on the livestock owners' declaration. The assessment made since the beginning of this process in 2013 is very positive. Indeed, the number of attacks reported did not increase and this tool, in addition to the existing one, enables time saving for the administration as well as for livestock owners. The latter are also content to be able to choose between several reporting systems (conventional or declarative).

For all of these reasons, in 2016, the Director for Water and Biodiversity of the Ministry of the Environment validated the extension of the scheme to the whole department of Hautes-Alpes and authorised the launch of a trial in Alpes-Maritimes. In 2017, the Alpes-de-Haute-Provence were also given assent to commence an identical experimentation in their territory.

Following the satisfactory assessment of the experiments already carried out, it seems relevant to be able to **propose experiments of the same type in new territories** wishing to set up such procedures.

2) Description of the action

The objective of this action is to extend the possibility of drawing up declarative damage reports to new territories to facilitate the reporting of the losses incurred.

Hence, it is appropriate to propose to department prefects a gradual extension of the principle of damage declaration. In order to ensure the proper implementation of these measures, an experimental phase will always be required, following which the procedure can be validated and extended to the whole department.

Following the feedback on the experiments, in order to ensure the relevance of the scheme, it seems essential that some rules are complied with:

- an agreement with the various stakeholders within the territory is required;
- systematic reporting of predation events on the departmental answering machine of the DDT(M);
- prior agreement with the livestock owner concerned, possibility for the livestock owner to request a traditional report;
- system reserved for sheep and/or goats;
- system reserved for damage involving fewer than 5 victims;
- compulsory production of photographs of the victims mentioning the animals' identification number;
- prior information to livestock owners on the implementation procedures;

- support for volunteer livestock owners by the organisations responsible for the reports (joint drafting of the report, telephone, and so on);
- random drawing up of at least 20% of traditional reports.

3) Schedule

	2018	2019	2020	2021	2022	2023
New experiments and application for the territories already subject to experimentation						

4) Leaders: MTES, Auvergne-Rhône-Alpes DREAL

5) Partners: MAA, ONCFS, DDT, PN and RN, OPA



APPROACH 4

BIOLOGICAL MONITORING OF THE WOLF

Since the natural return of the wolf in France in 1992, biological monitoring enables the progression of the wolf population to be characterised both geographically and demographically..

This monitoring is based on the collection of field presence signs (wild or domestic prey, tracks, sightings, scats, howls), carried out by the "wolf network", composed of approximately 3 500 correspondents and coordinated by ONCFS.

The observation pressure achieved within the framework of this network is organised according to two modalities:

- **"extensive" monitoring** (opportunistic sign surveys) in order to document, in particular, the evolution of the geographic extent of the species. It also enables, for example, the minimum numbers within settled groups of animals to be characterised;
- **"intensive" monitoring** (systematic winter tracking and elicited summer howling). It is organised using protocols only on the territories where the species is settled.

These signs are then exploited according to a standardised methodology for analysing the convergence of their technical characteristics towards the identification of the species. Indicators related to the wolf population trend are then derived.

The conclusions of ONCFS on the development of the wolf population are communicated twice a year: in spring, for the winter monitoring, and in autumn, for the summer monitoring.

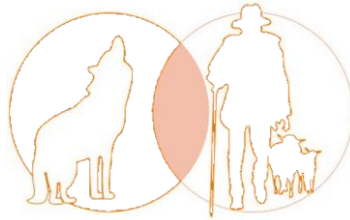
In 2012, an international expert (Mr. Olof LIBERG, coordinator of the Skandulv project and member of the International Wolf Specialist Group at the IUCN) assessed the functioning and the productions of this biological monitoring. According to his conclusions, "My general impression of the French wolf monitoring program, how it is organized, the methods it is using, and the personnel involved, is that it holds an unusually high standard, also in an international context. The use of several independent methods that support each other is a tremendous strength. "

The biological monitoring of the wolf is essential since it supports all the terms and conditions of the public policy. Indeed, the general framework remains that of the aptitude to inform the anticipated outcomes of Articles 1 to 16 of the "Habitats Fauna Flora" Directive in terms of characterisation of the conservation status and the possibility of derogation from the strict legal protection of the species.

The actions in the NAP aim at adapting the biological monitoring to the expansion of the wolf in the French territory and implementing new means for improved management of biological information to better contribute to predation control.

ACTIONS

- 4.1 Continue and adapt the biological monitoring of the species by reinforcing its contribution to an improved predation control
- 4.2 Monitor hybridisation in the wolf population
- 4.3 Encourage the diversity of stakeholders among the correspondents responsible for the collection of presence signs, in particular by promoting the access to livestock owners and hunters



ACTION 4.1 Continue and adapt the biological monitoring of the species by reinforcing its contribution to an improved predation control

1) Background

The monitoring of the species was documented in 2017 through **combined geographic and demographic indicators**:

- the presence area of the species (communes with different types of presence);
- the number of ZPPs, including those consisting of packs;
- the minimum numbers detected (effectif minimal retenu - EMR);
- the estimation of the total number of wolves in France, with the associated likelihood deviation.

The development of these indicators draws on various resources such as field monitoring, the collection of observations and biological material, genetic analyses and capture-mark-recapture modelling (CMR via a genetic approach). The development of these indicators is based first on the good distribution of the data collection and therefore on the good territorial coverage of the Network correspondents. The colonisation of the wolf is documented as positive both spatially and numerically. This territorial progression implies, for the current monitoring indicators, the ever-growing need to deploy human and financial means which are now reaching their limits.

This requires adapting the indicators characterising the conservation status which could be deployed on increasingly larger scales while remaining robust for assessing the species' conservation status with a satisfactory degree of reactivity.

Moreover, at present, the presentation of the data on the status of the wolf population sometimes leads to misunderstandings and mistrust on the part of some partners.

With the objective of an improved operability for the management and conservation of the species, the departmental level remains that which manages interactions between species and areas. Hence, a diagnosis of the state of the wolf's situation and its interactions with other species and areas at this scale is of definite interest. In this context, the building of a representative departmental dashboard that can present the developments of the wolf population, of the monitoring, of the preventive and management actions and of the damage to flocks for the purpose of detecting attack outbreaks, will be assessed.

Lastly, the extension of the area occupied by the species at national level requires **adapting the tools for managing the data collected** as part of the monitoring.

The services of ONCFS are currently working on regional databases which are centralised several times a year according to the needs for producing national syntheses. This procedure is now cumbersome due in particular to the volume of data kept (n > 22 000 records). Furthermore, this system lacks reactivity and does not enable online consultation of the information by the correspondents or the decision makers.

On the other hand, **a centralised database ("Géoloup") exists for the recording of damage reports**. It is operational for the production of syntheses. It would be appropriate to be able to link these two data sources, in a dynamic manner, to produce relevant analyses.

With time, we should be able **to create a resource centre gathering all the information needed for the biological monitoring of the wolf and for the follow-up of protection measures**.

2) Description of the actions

1/ Continue and adapt the biological monitoring of the species with the objective of a robust adaptation of the metrics of the wolf's conservation status on a large scale

The aim is to:

- **new indicators:** test various new indicators and new metrics that are less demanding in terms of time and means, by comparing them with the current indicators and their trends over time; verify whether these new indicators reflect satisfactorily the conservation status of the population and are able to show its trend in a reactive manner; choose the best indicators to that end; these new indicators will make it possible to have a level of information at least equal to that existing (no regression of the monitoring quality);
- **new data:** quantify and describe in detail what these new indicators imply in terms of data collection and analyses, and amendment to the protocols;
- **changes to the Network:** study what those data and analysis needs imply for the organisation and sizing of the human and financial resources to be mobilised, in particular for the Network. Study how this new Network deployment strategy can be consolidated by modernising the tools and facilitation and training methods;
- **finer-scale study sites:** in parallel with the new large-scale metrics, and in order to complement them and/or check their validity at fine scale, assess the possibility of a high level of diagnosis in more localised study sites.

2/ Study the relevance of departmental dashboards indicating the situation of both the wolf and damages

The aim is to improve operationality for the conservation and management of the species at the departmental scale by producing an interdisciplinary dashboard, a genuine decision support tool for the implementation of necessary actions for predation control (especially in attack outbreaks).

3/ Modernise the tools for data capture, compilation, mapping and reporting for a better information management

The aim is to develop the current ONCFS database into a national shared and multi functional database (monitoring and damage, services and correspondents, data entry and development of maps and graphs, and so on).

This information management requires a substantial investment in the standardisation of processes and in the development of collaborative tools. The design and deployment of such tools will be studied so as to harmonise information management and improve the tools for communicating the results. This development will have to rely on skills in computing and in scientific information popularisation.

For all these missions, ONCFS will be supported by the Scientific Committee of the NAP so that the latter can advise ONCFS for the development of the new biological monitoring methods.

Furthermore, a joint mission of the General Council for Food, Agriculture and Rural Areas and the General Council for the Environment and Sustainable Development will be set up in 2018 to make recommendations to support the development and adaptation of biological monitoring and to ensure appropriate communication on this subject.

The mission will also cover the means of monitoring the wolf/dog hybridisation phenomenon and ensuring its management (as part of the action 4.2 of the NAP) and the means for guaranteeing that the regulatory framework concerning captive wolves and its application efficiently prevent any escape of animals into the external environment.

3) Schedule

	2018	2019	2020	2021	2022	2023
Sub-action 1						
Sub-action 2						
Sub-action 2						

4) Leaders:

Sub-action 1: ONCFS

Sub-action 2: ONCFS, Auvergne-Rhône-Alpes DREAL

Sub-action 3: ONCFS

5) Partners:

Sub-action 1: CNRS, Wolf Lynx Network, protected areas, MTES and MAA

Sub-action 2: DDT(M), socio-professional and associative organisations, MTES and MAA

Sub-action 3: Auvergne-Rhône-Alpes DRAAF and DREAL, MTES and MAA

ACTION 4.2 Monitor hybridisation in the wolf population

1) Background

Faced with the questions of several stakeholders regarding the presence of hybrids between the wolf (*Canis lupus lupus*) and the dog (*Canis lupus familiaris*) within the French wolf population, ONCFS assessed the phenomenon in July 2017 by entrusting 228 samples to the ANTAGENE laboratory, an internationally recognised institution in the field of wildlife genetic analysis.

Showing evidence of a possible hybridisation between two very close sub-species such as the wolf and the dog is complex. Therefore, high-level genetic and statistical methods are required, for which only a few laboratories in Europe have the necessary material and capabilities.

These hybridisation analyses were conducted on the 155 exploitable samples. These correspond to 143 different animals (several samples can correspond to a same animal), 13 of which were identified as dogs.

Among the 130 remaining individuals, the ANTAGENE laboratory's analyses showed that:

- 120 are wolves, all belonging to the Italian genetic lineage;
- 2 have genetic signatures that would correspond to 1st generation hybrids;
- 8 have genetic signatures that would correspond to a less recent hybridisation.

Hence, based on these analyses representing the whole country, the recent hybridisation phenomenon (1st generation) concerns 1.5% of the animals; 6% are concerned by less recent hybridisation; all others, i.e. 92.5% of the 130 individuals analysed, are non-hybridised wolves.

The studies already carried out in other European countries report 2 to 10% hybridisation, except in a well-delimited area of the Apennines in Italy where this rate is higher, due to a significant presence of stray dogs.

2) Description of the actions

The aim is to:

- continue the analysis on exploitable samples and build a reference bank;
- continue exchanges with other European countries;
- communicate the results.

Particular attention will be focused on the issue of hybrids, to assess whether its rate of 1 to 2% of the population changes and justifies a scheme to exclude them from the ceiling limit. A general inspection mission conducted by the General Council for Food, Agriculture and Rural Areas and the General Council for the Environment and Sustainable Development will be launched on this issue.

3) Schedule

	2018	2019	2020	2021	2022	2023

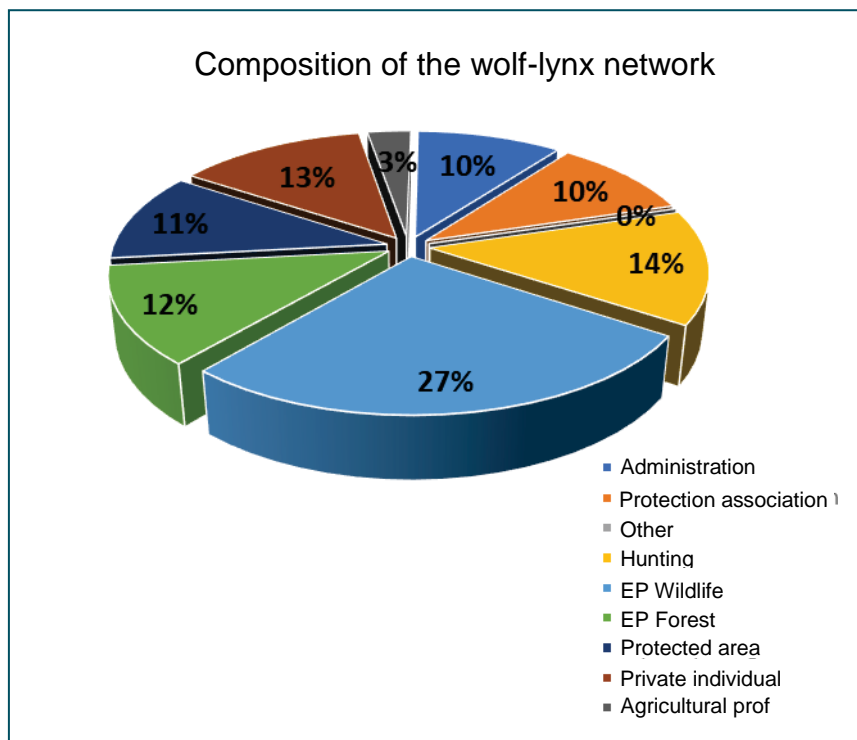
4) Leader: ONCFS

5) Partners: CNRS, Wolf Lynx Network

ACTION 4.3 Encourage the diversity of stakeholders among the correspondents responsible for the collection of presence signs, in particular by promoting access to livestock owners and hunters

1) Background

The efficiency of a monitoring system implemented by a network of observers has already been demonstrated for monitoring a species living at low density, with high capacity for movement and able to travel several hundreds of kilometres to find a new territory to colonise. This network now has almost 3 500 correspondents of diverse backgrounds:



This system relies, at an initial stage, on a panel of wildlife professionals distributed across the country (colonisation front) and then extends to a participatory system (the whole presence area) which benefits from the experience of the field players, be they livestock owners, naturalists, foresters, farmers, hunters, or mere hikers. This diversity makes it possible to improve the survey coverage as well as the quality of the information collected. The agricultural and hunting communities represent only 3% and 14% of the correspondents, respectively, whereas they provide a significant presence in the field.

The training of network correspondents represents a significant investment both for the individuals receiving training and for the training institution (ONCFS).

2) Description of the actions

The aim is to improve the recruitment of volunteer correspondents within the agricultural and hunting communities through the improvement of conditions of access to the training courses:

- reducing the length of the training to two full days (compared to 2.5 to 3 in the past);

- defining a provisional timetable of training dates by administrative region;
- communicating this timetable and a description of the content to the departmental organisations (CA, FDC);
- making this information available on-line with regular updating.

A new more operational training scheme will be designed and tested. The aim is to promote experiences on the tools and techniques for sign surveys, reporting, data management, drawing up of attack reports for the qualified persons, etc. Competence in terms of teaching methods and development of knowledge transmission tools will be required.

3) Schedule

	2018	2019	2020	2021	2022	2023

4) Leader: ONCFS

5) Partners: FDC and CA, protected areas



APPROACH 5

INTERVENTIONS IN THE WOLF POPULATION

The wolf is a strictly protected species in France since 1994 and at the international and Community levels. It is listed in:

- Annex II of the CITES (Convention on International Trade in Endangered Species – 1973), and in Annex A of its European implementing regulation;
- Annex II of the Bern Convention on the Conservation of European Wildlife and Natural Habitats of 1979, ratified in France in 1989;
- Annexes II and IV of the European directive on the conservation of natural habitats and of wild fauna and flora (the Habitats Directive) 92/43/EEC of 21 May 1992, where it is classed as "priority Community interest".

These provisions were transposed into French law by Articles L. 411-1, L. 411-2 and R. 411-1 to 14 of the French Environmental Code and by the amended decree of 23 April 2007 setting out the list of protected land mammals nationwide and the provisions for their protection.

Derogations from the strict protection of the wolf were provided for, in accordance with the Community and national regulations. These derogations are only possible under three conditions:

- 1) the derogation must not be detrimental to the maintenance of the populations of the species concerned at a favourable conservation status in their natural range;
- 2) the derogation must take place within a predefined framework, justifying an interest in taking action (regarding the wolf, the provision concerned is the one intended to "*prevent serious damage to livestock*");
- 3) provided no other satisfactory solution can be implemented.

Hence, two national interministerial decrees have been drawn up to regulate this "technical intervention protocol" for the wolf population:

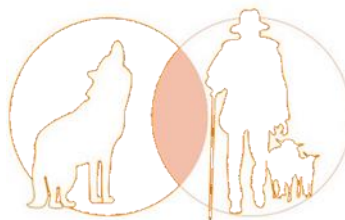
- the "framework" decree lays down the regulatory conditions and limitations under which the derogations to the prohibitions on destruction may be granted by the department prefects;
- the "ceiling" decree sets, for a given period, the maximum number of wolves whose destruction may be authorised.

The technical intervention protocol provides for **a gradation in the shootings which may be authorised according to the predation pressure** (significance and recurrence of attacks) in the territory of the derogation applicant: deterrent shots, simple defensive shooting, reinforced defensive shooting, simple culling by shooting or reinforced culling by shooting.

The objective of the actions in the NAP is to reinforce the relevance of the operations implemented to better control wolf predation.

ACTIONS

- 5.1 Align the shooting campaign with the calendar year (from 1 January to 31 December)
- 5.2 Apply the framework terms and conditions of intervention in wolf populations
- 5.3 Sustain the national wolf brigade from ONCFS and consolidate its workforce
- 5.4 Continue disseminating the lessons learned from the wolf brigade to better integrate the official wolf hunter lieutenants for the implementation of reinforced defensive shooting
- 5.5 Improve the conditions for defrayal of official wolf hunter lieutenants
- 5.6 Maintain a high level of involvement from hunters, in particular through training and communication actions
- 5.7 Ensure the training of livestock owners who wish to obtain a hunting license to ensure the defence of their flocks



ACTION 5.1 Align the shooting campaign with the calendar year (from 1 January to 31 December)

1) Background

The technical intervention protocol for the wolf population provided for the setting of a ceiling limit of wolves that may be killed for a period ranging from 1st July of the year N to 30 June of the year N+1, until 2017.

The beginning of this period, which is in summer, coincides with the presence of flocks/herds on the summer pastures, in most of the regions. Hence, predation pressure is very strong at the beginning of the campaign, which generates a large number of shootings in the first months of the campaign.

Hence, for the past 2 years, at the end of the campaign (during the months of April, May, June), the maximum ceiling of wolves that may be killed was reached before the publication of the new decree in June of the year N+1. This situation was unacceptable for the livestock owners confronted, once again, with heavy predation during the ascent of the flocks/herds to the mountain pastures (a particularly sensitive period). The ceiling was therefore raised until the end of the campaign. This modality was implemented by complementary decrees (for the 2015/2016 campaign: 14 June 2016; for the 2016/2017 campaign: 10 April 2017 and 14 June 2017).

A reflection was therefore initiated to rectify this problem.

2) Description of the action

The decree defining the number of wolves that may be killed during a year, so that the culling of wolves is not detrimental to the species' good conservation status ("ceiling" decree) will provide **that this number is set for a calendar year, from 1st January to 31st December**.

In order to set this maximum number, scientists recommend **not killing more than 10 to 12% of the numbers** so as not to jeopardise the viability of the species. On this basis, the determination of the ceiling of wolves that may be killed will be based each year on the results of the regular monitoring of annual average wolf numbers, estimated by ONCFS in the spring of each year.

In order to ensure the transition with the management for 2017 (and the passage to the calendar year), the **initial ceiling for 2018 will be set at 40**. It will be updated once the population figures in spring are known, to be raised to 10% of the population.

From the following years, the ceiling will be set at 10% of the annual average numbers. In the event of this ceiling being reached before the end of the calendar year, the prefect coordinator will have the option of activating the authorisation of additional defensive shootings within the limit of an additional 2%.

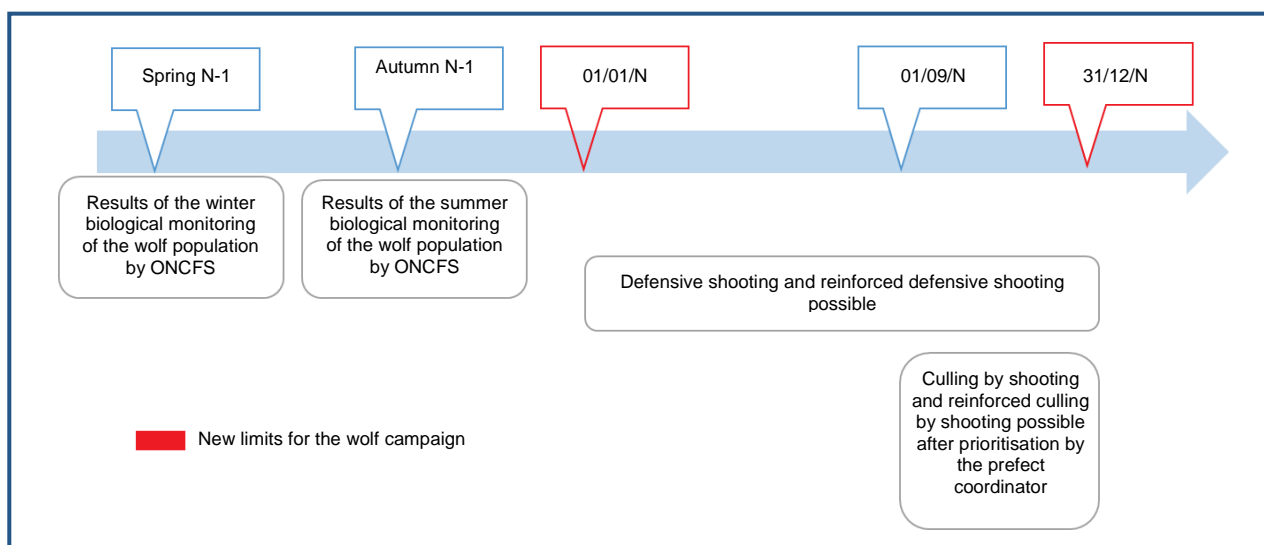
The provisions of the NAP (in particular the new regulatory framework for interventions in the wolf population as described in the action 5.2 as well as the missions entrusted to the prefect coordinator within this framework) must make it possible to ensure that the ceiling of wolves that may be killed is not reached in the course of the year. In the case of an exceptional situation, the **prefect coordinator can authorise simple defensive shooting** beyond this ceiling so that livestock owners can defend themselves throughout the year. This measure will be subject to specific monitoring.

This new alignment of the wolf campaign has several advantages related to the evolution of the predation pressure over the course of the year. Hence, management over a calendar year will make it possible to favour defensive shooting (simple and reinforced) from January to September, in particular when the animals are the most likely to be attacked (in spring and summer during the grazing period for pastoralism). The objective is to be able to **prioritise killing those wolves that attack the flocks**, to reduce the damage. **Culling by shooting** will be carried out as a second step, **in autumn**, to:

- reduce predation pressure when it is strong in attack outbreaks;
- slow the expansion of the wolf in some colonisation fronts, in particular in regions housing the flocks that are the most difficult to protect.

This new alignment must also facilitate compliance with the ceiling of wolves that may be killed until the end of the campaign.

Once the population is considered by scientists to be in a good conservation status in France, the principle of the annual ceiling and its level will be reexamined and the management methods will be adapted to take into account the natural growth of the species and its impacts on stock-rearing activities.



3) Schedule

	2018	2019	2020	2021	2022	2023
1/ Publication of the decree						
2/ Application of the decree						

4) Leader: MTES

5) Partners: MAA, Auvergne-Rhône-Alpes DRAAF and DREAL, DDT, ONCFS, Official Wolf Hunter Lieutenants, FDC

ACTION 5.2 Apply the framework terms and conditions of intervention in wolf populations

1) Background

In accordance with the regulation on the strict protection of the wolf, it is possible to grant **derogations from this protection** when they are necessary to **prevent significant damage to flocks/herds of domestic animals**. The derogations must also respect two other criteria: **the absence of another satisfactory solution** (in this case, the protection of flocks by adequate measures) and they **must not jeopardise the good conservation status of the wolf population**. The interventions so authorised must be proportionate and graduated.

In accordance with the French Environmental Code (Article R. 411-13), a ministerial decree sets out the general rules that derogations from the strict protection of the wolf must comply with, these derogations being granted by the prefects. It is complemented by a ministerial decree setting the maximum number of wolves that may be killed each calendar year (including, when necessary, a number of wolves whose destruction is only possible by means of defensive shooting or reinforced defensive shooting).

This regulatory framework has gradually evolved over the past fifteen years.

The work conducted prior to the development of the 2018-2023 NAP makes it possible to draw lessons for an evolution of the regulatory framework adapted to the situations encountered. The aim is in particular to:

- give priority to deterrent shots and defensive shootings and to change the conditions of their implementation;
- better characterise the situations justifying culling by shooting;
- provide further details on the implementation of the protection measures, which is a prerequisite for interventions on the wolf population;
- better control compliance with the destruction ceiling fixed each year.

2) Description of the action

To take account of the lessons learned, a new ministerial decree laying down the conditions and limitations within which these derogations from the prohibitions on destruction may be granted by the wolf-related prefects will enter into force from the 2018 campaign. This was the subject of prior exchanges with the stakeholders, in particular through the GNL with its renewed governance, of the CNPN's opinion and of a public consultation.

The application of the new decree will be assessed at mid-course of the NAP in order to be adjusted, if need be.

Being implemented, under the control of the prefect coordinator, so as to ensure that the ceiling of wolves that may be killed is not reached in the course of the year, this new decree sets out the following main developments:

Regarding simple defensive shooting and reinforced defensive shooting

- Liberalisation of defensive shooting with a rifled barrel firearm: it becomes a right for the livestock owners from the moment when their flocks are protected or recognised as not protectable.

Whereas the prior recourse to deterrent shots is not indispensable for the implementation of simple defensive shooting, it is to be preferred since it should be recalled that the deterrence of wolves, using olfactory, visual, auditory means or non-lethal shooting, is in the first place a relevant means of preventing predation by deterring the wolf from approaching the flocks, especially since its implementation is subject to no administrative procedure (particular provisions exist for some protected areas).

Furthermore, every effort is made to ensure that defensive shootings can be mobilised throughout the year for these livestock owners, since the Prefect coordinator has a capacity to regulate reinforced defense shooting and culling by shooting which will enable simple defensive shooting year-round. In the event of an exceptional situation, the prefect coordinator may authorise simple defensive shooting beyond this ceiling so that livestock owners can defend themselves year-round. This measure will be subject to specific monitoring.

- Faster access to reinforced defensive shooting: the prior definition of an action unit is no longer necessary. This modality can be used:
 - when a flock has suffered at least three successive attacks in the twelve last months preceding the derogation request, despite the implementation of defensive shooting;or:
 - when a flock is located in a commune where at least three attacks have been reported in the course of the twelve months preceding the derogation request, on flocks for which defensive shootings have been implemented.
- The reinforced defensive shootings can be suspended from 1st September to 31st December to take into account the compliance with the number of wolves that may be killed according to the damage monitoring. This procedure does not apply to simple defensive shooting.
- The prefect coordinator is in charge of arbitrating the assignment of the ONCFS wolf brigade which operates exclusively within this administrative framework.
- Lastly, under the terms of the "framework" decree of 30 June 2015, defensive shootings were not authorised in the central area of national parks (PN) whose founding decree prohibits hunting, as well as in the national natural reserves (RN) created for reasons including wildlife conservation; since these areas are places where the peace of wildlife must be preserved, there is no reason to amend the previous provisions.

Regarding simple and reinforced culling by shooting

- Their implementation will be prioritised following an opinion from the prefect coordinator (in view of the predation levels of the territories at the end of summer) and will be carried out from 1st September to 31st December.

Moreover, as for reinforced defensive shooting, culling and reinforced culling by shooting can be suspended from 1st September to 31 December to ensure compliance with the maximum number of specimens whose destruction is possible in the course of a calendar year.

The use of simple culling by shooting will be limited to well identified territories characterised by the significance of attacks and under certain conditions in some colonisation fronts.

The use of reinforced culling by shooting will be limited to territories duly objectified, characterised by the significance and recurrence of attacks and under certain conditions in some colonisation fronts.

This measure aims to:

- improve the use of the national ceiling (reduce attacks where the situation is unbearable);
- ensure fairness among livestock owners confronted with predation by favouring defensive shootings (whose access is also facilitated);

- mobilise culling and reinforced culling by shooting in an adequate manner according to the predation pressure (facilitate additional destructions in areas with a high concentration of attacks and favour the territories where defensive shooting did not work as intended).

Without this control lever, it is to be feared that a very limited number of territories (the best organised and not necessarily the most attacked) could come to deprive the majority of the possibility of flock defence throughout the year.

Particular provisions in some colonisation fronts

In colonisation fronts, the areas where, as a result of herding methods, the implementation of flock protection measures against wolf attacks presents significant difficulties, will be determined by regulation.

In these areas, defensive shooting and culling by shooting can be authorised without the flocks benefiting from protection measures under the following conditions:

- for simple defensive shooting, without any other condition;
- for reinforced defensive shooting, when the flock, despite the recourse to defensive shooting, was subject to at least three successive attacks in the last twelve months preceding the derogation request, or is located in a commune where at least three attacks have been reported in the course of the twelve months preceding the derogation request, on flocks for which defensive shooting has been implemented;
- for simple or reinforced culling by shooting, when wolf attacks on the flocks persist after the implementation of two reinforced defensive shooting operations in a maximum period of twelve months.

Particular provisions for some protected areas

Since protected areas are peaceful places for wildlife, the new regulatory framework relating to the protocol for intervention in the wolf population will renew the restrictions until now in effect in the case of the central areas of PNs and in the RNs created for reasons including wildlife conservation.

3) Schedule

	2018	2019	2020	2021	2022	2023
	Entry into force			Assessment		

4) Leaders: MTES, MAA, Prefect coordinator

5) Partners: ONCFS, OPA, APN, Official wolf hunter lieutenants, DDT(M)

ACTION 5.3 Sustain the national wolf brigade from ONCFS and consolidate its workforce

1) Background

Founded in September 2015, on the initiative of the Minister of Ecology, this brigade, whose management is entrusted to ONCFS, is now fully operational. The main missions of the brigade are **participating in defensive and reinforced defensive shooting** in support of flock protection, **wolf monitoring in the winter period** and the occasional drawing up of **damage reports** during its presence in the mountain pastures. Having modern means at its disposal, it has proved particularly efficient in carrying out its missions. Beyond the number of wolves culled, the presence of the brigade around strongly depredated flocks can decrease predation kinetics and reassure the livestock farmer or the shepherd. As such, it achieves unanimity in the pastoral world which can rely on field support. The brigade intervenes preferentially in attack outbreaks, throughout the country, at the request of the DDT(M), and if necessary, after prioritisation of its interventions by the prefect coordinator. The missions are generally carried out at night, for an average duration of five consecutive days in a mountain pasture.

The agents were recruited on Contrats d'Avenir (future contracts) ending in September 2018, for the most part. Currently, the brigade has 11 agents and two management roles in its workforce.

2) Description of the actions

The aim is to secure the workforce of the national brigade. Since the conditions of access to State-aided contracts have been modified, various administrative solutions will be studied from the start of the NAP.

It may be considered to mobilise the regions if necessary to enable the brigade to intervene more regularly outside of its historical area (Southern Alps). If local brigades were to be created, it should be ensured that they remain under the functional authority of both ONCFS and the prefect coordinator.

A technical collaboration with official wolf hunter lieutenants will be implemented to benefit from their detailed knowledge of the territories.

3) Schedule

	2018	2019	2020	2021	2022	2023

4) Leaders: ONCFS, Prefect coordinator

5) Partners: MTES, MAA, DDT(M), Local authorities (in particular, regions)

ACTION 5.4 Continue disseminating the lessons learned from the wolf brigade to better integrate the official wolf hunter lieutenants for the implementation of reinforced defensive shooting

1) Background

The status of official wolf hunter lieutenants has changed over time to adapt to realities of today so that most of their activities are centred on the destruction of wild boar or foxes.

The official wolf hunters (French: Louvetiers) remain volunteer officials attached to a district; they intervene under the authority of the Prefect for missions aimed at killing animals likely to cause damage. They are sworn and can report infringements to the hunting police; they are technical advisors of the administration and exercise their duties in the general interest.

They are now very much in demand owing to their administrative and technical capabilities to participate in the implementation of exempted wolf shooting operations. This demand can become constraining due to the diligence it requires. Therefore, it is appropriate to support them in this evolution of their missions to give them the means to intervene in good conditions. Hence, little by little, this corps will regain its original powers.

2) Description of the actions

The aim is to have in the departments concerned by wolf damage a **team of available volunteer official wolf hunters and to offer these volunteer agents satisfactory conditions for exercising their missions.**

The following actions will be implemented:

- dissemination of the knowledge acquired by the ONCFS brigade to the official wolf hunter lieutenants;
- mandatory training of official wolf hunter lieutenants for operations of exempted wolf shooting by ONCFS:
 - member of the wolf – lynx network (fundamental knowledge, participation in the monitoring of the species);
 - implementation of defensive shooting around flocks (security, use of the material, efficiency, and so on);
- encouraging the recruitment of volunteer official wolf hunter lieutenants able to carry out this type of mission.

3) Schedule

	2018	2019	2020	2021	2022	2023

4) Leaders: ONCFS, DDT

5) Partners: Official wolf hunter lieutenants

ACTION 5.5 Improve the conditions of defrayal of official wolf hunter lieutenants

1) Background

The legislative and regulatory provisions relating to official wolf hunter lieutenants are set out in Articles L. 427-1 to L. 427-7, R. 427-1 to R. 427-4 of the French Environmental Code.

Official wolf hunter lieutenants are appointed by the prefect and contribute under his authority to carry out public order duties relating to wildlife management.

The administrative hunts and drive hunts of non-domesticated animal species causing damage are organised under their control and under their technical oversight. Their duties, exercised in the general interest, are voluntary.

With regard to the wolf, they play a central role in the implementation of reinforced defensive shooting, culling by shooting, and reinforced culling by shooting.

The circular of the Ministry of the Environment of 5 July 2011 provided for a defrayal of official wolf hunter lieutenants for interventions relating to the wolf alone, by **opening up the possibility of paying them a kilometric allowance following their travels.**

This provision is implemented in most of the departments where it is requested.

2) Description of the action

In order to support the action of the official wolf hunters involved in interventions in the wolf population, **credits will be made available to the prefects in order to pursue their defrayal** during their travels (attribution of kilometric allowances upon their request).

In addition, credits can be mobilised to ensure that they are provided with appropriate material, in particular for night missions.

3) Schedule

	2018	2019	2020	2021	2022	2023

4) Leaders: MTES, Department prefects

5) Partners: Official wolf hunter lieutenants

ACTION 5.6 Maintain a high level of involvement from hunters, in particular through training and communication actions

1) Background

The participation of hunters in exempted wolf shooting operations is provided for in the decree of 30 June 2015 by introducing the possibility of carrying out culling by shooting during big game hunting actions. Furthermore, they are regularly called upon by livestock owners or official wolf hunter lieutenants to participate in reinforced defensive shooting or culling operations.

The hunting world is an invaluable community owing to its excellent knowledge of the environment and its shooting skills.

To date, nearly 11 000 hunters have been trained by the services of ONCFS, often in cooperation with the FDC, to participate in culling actions. In the field, mobilisation varies widely, often dependent on the local relational fabric. Moreover, the territorial coverage of hunters in France is an asset in improving monitoring of the species, provided that motivation is generated among these rural players.

2) Description of the actions

The aim is to:

- encourage the hunters' participation in exempted actions (defensive shooting and culling by shooting);
- encourage the recruitment of correspondents within the hunting network.

The implementation of the following operations will be necessary:

- maintain mandatory training for hunters wishing to participate in culling by shooting operations;
- propose a national accreditation for any hunter having participated in a training action;
- ensure the follow-up of the training and sanction any abuse observed (safety, compliance with regulations, and so on);
- develop promotion actions coordinated with the FDC (General Assembly, brochures, and so on);
- encourage the involvement of the FDC in the monitoring and training actions;
- promote appropriate training (schedules, places, content, and so on);
- promote the monitoring of the species through the wolf network within communal hunting associations;
- promote the wolf – lynx network during training sessions on exempted operations for accreditation purposes (record registrations);
- provide appropriate communication tools (accessibility, reactivity, etc.)

3) Schedule

	2018	2019	2020	2021	2022	2023

4) Leader: ONCFS

5) 5/ Partners: FNC, FDC

ACTION 5.7 Ensure the training of livestock owners who wish to obtain a hunting license to ensure the defence of their flocks

1) Background

The defence of flocks by firearm requires livestock farmers and shepherds to be holders of a hunting license pursuant to the ministerial decree of 30 June 2015.

The procedure of the hunting license examination now consists of a single session including practical exercises and a workshop for theoretical questions. This new examination approach focuses on safety and mastery of the firearm; it corresponds in that respect to the expectations of a future firearm user who has to defend his flock.

The training is provided by the FDC whereas the examination is the responsibility of ONCFS. Many Federations now organise the training in a single day to facilitate the participation of candidates. The duration of the examination does not exceed one hour.

Obtaining the license may prove compelling since it requires the involvement of the candidate in the preparatory training and then the successful completion of the examination. Moreover, participation in the hunting license examination training programme requires compliance with the administrative procedure for registration.

2) Description of the actions

The aim is to:

- maintain simplified conditions for training and examination for the hunting license,
- facilitate the registration conditions for the hunting license for the pastoral world through a prior centralisation;
- develop specific communication aimed at farmers to explain the conditions of access to the hunting license;
- mobilise the CAs to facilitate access to training for the hunting license (information, registration, and so on);
- encourage the FDC to offer the preliminary training in a single day;
- maintain the current provisions for the single hunting license examination;
- maintain the capacity for ONCFS to present many examination dates for each department.

3) Schedule

	2018	2019	2020	2021	2022	2023

4) Leader: ONCFS

5) Partners: FDC, CA



APPROACH 6

DEVELOPMENT OF COMMUNICATION, INFORMATION AND TRAINING

Owing to the issues at stake, a clear, accessible and objective communication is necessary so that the information available and the actions conducted can be apprehended in the best manner possible by the various audiences concerned.

This communication was already well established during the previous NAP. Indeed, in the face of the multiplicity of players, the information flow was adapted and optimised; many documents were produced with different aims:

- outreach documents on the species, for the general public, by ONCFS;
- documents for stakeholders newly confronted with the problems of wolf predation, by the DREAL: e.g. the mayors confronted with multi-party conflicts related to guard dogs;
- documents aimed at the new colonised territories: e.g. the "colonisation front kit", published by the DREAL (this guidebook summarises the main strands of public policy regarding wolf predation).

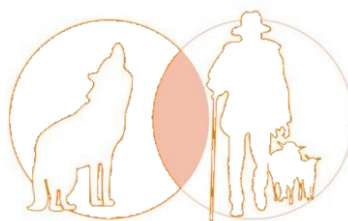
At the same time, communication tools for the dissemination of these various documents were updated, in particular with the platform which centralises them, consisting in the DREAL website, kept up to date in conjunction with the DRAAF.

The objective of the NAP is **to develop these communication actions as well as to develop training and information in agricultural institutions.**

In the longer term, the objective is to **set up a resource centre.**

ACTIONS

- 6.1 Develop communication and information
- 6.2 Develop training



ACTION 6.1 Develop communication and information

1) Background

Having regard, on the one hand, to the impacts of the wolf on the territories and stock-rearing activities, and on the other hand, to aspects related to the protection of the species for a large part of society, it is **necessary to communicate more widely on this species and its interactions with its environment and with human activities.**

The communication and information strategy put in place in the course of the two preceding action plans aimed at supporting their implementation in all the territories concerned. It will be updated to enable the State to position its communication in line with the precise needs and expectations of the various stakeholders.

The management of the communication component and of the specifically dedicated annual budget remains entrusted to the Auvergne-Rhône-Alpes DREAL in order to structure and coordinate the various actions or media to be implemented and to have, at the upstream stage, a global vision of all the actions deployed over the year in order to control their periodicity, their budget and their achievement.

The objective of the communication mission is to produce effective, practical actions, adapted to the diversity of players, territories and situations. It remains committed to undertaking objective, reactive and transparent communication actions.

Supporting the actions of the State and its partners remains the major challenge of the communication mission: making available to the various publics reliable factual, balanced and harmonised information in all the territories.

2) Description of the actions

ONCFS continues to ensure the scientific and technical dissemination to the relevant stakeholders and to the public. The communication of the results of the biological monitoring of the species will be pursued via the Bulletin du Réseau (Network Bulletin), a reference tool for a better understanding of the wolf population and public decisions.

In response to a request widely expressed by various players, a reflection will be initiated on the means to develop faster and more detailed communication on the results of genetic analyses.

The DREAL remains in charge of information coordination within the State and ensures that the information flow circuits are updated. It defines the most efficient technical means or media to produce information that is shared, understood by and readily available to all stakeholders (Intranet and Web sites, publications, communication tools, awareness-raising actions, events, and so on). The development of this communication can be achieved using innovative devices that can be tested and developed (if they prove to be effective) on a wider scale at a later stage: computer applications, support/listening workshops, deployment of educational tools, and so on.

Beyond the general information intended to make known the measures of the wolf plan, specific communication will be achieved to address essential subjects.

- **The specific support provided to the new territories with wolf presence** remains a priority.
- **The support for prefectures** (particularly in crisis situations), decentralised services and ONCFS in their communication efforts will be maintained and reinforced.
- **Information for livestock farmers and shepherds** also remains a priority axis. Among other tools, devices facilitating a real-time flow of transparent information on attacks between livestock farmers, shepherds, ONCFS, managers of protected areas and DDT(M) can be tested (radios, SMS alert, and so on).

- **Awareness-raising of the general public** forms an important part of the wolf plan's communication component:
 - the DREAL will continue to develop and disseminate the recommendations relating to the behaviour to adopt in case of an encounter with guard dogs and flocks. Steps will be taken to associate tourism stakeholders (tourist offices, mountain guides, hosts, specialists in hiking and outdoor sports, and so on) to this dissemination;
 - foraging actions in the summer period in tourist areas will be developed with the aim of presenting the pastoral issues, the species conservation issues, the appropriate reactions in the presence of guard dogs or of a flock;
 - a reflection will be conducted on the deployment of a participative tool for hikers and tourism professionals allowing everyone to report, on a specific date, the presence of guard dogs on a path;
 - in order to encourage and develop knowledge about the wolf, the development of communication tools in partnership with ONCFS will be studied in order to promote the knowledge acquired;
 - a specific communication on the role and intervention of hunters must be carried out to explain and raise awareness in the general public.
- School children represent a strong awareness-raising potential: the use of the educational kit designed to raise awareness of wolves, as well as the problems related to the presence of the animal in the French territory, will be optimised.
- The implementation of a popularised technical communication strategy aimed at major national media and the regional daily press will be studied so as to be more proactive as opposed to reactive.
- Protected areas will be pilot territories for the development of innovative communication strategies and tools.
- In these areas, communication must be able to be extended to all the users, both before and after the arrival of the wolf (livestock owners, inhabitants, hunters, stakeholders in parks - hosts, leisure supervisors - ; elected officials; hikers; the general public; school children, and so on).

These ideas can, after assessment, be taken up by local authorities, to enable the development of an efficient communication in all the areas with wolf presence and not only in protected areas.

Furthermore, the prefect coordinator will benefit from the support of a service provider, competent in communication, that will keep track of the information circulating on the wolf issue in order to:

- promote the transparency of information;
- prevent as much as possible its dissemination when this information turns out to be false;
- respond in a reactive and appropriate manner when this information is disseminated, and set the record straight.

The department prefects will have an enhanced role in the communication operations relating to the wolf's presence in their territory. In consultation with the local elected officials, they will set up a dissemination of local information on the presence of the species (tracks, attacks, available measures, and so on).

They will relay the messages and tools developed at national level on all the subjects addressed.

Lastly, **a resource centre on the wolf and its interactions with pastoralism and the environment will be established**. This platform will in particular have the aim of gathering data concerning: the situation of the wolf in France, scientific studies carried out and ongoing, information on the wolf and on protection measures, good practices in terms of coexistence between mankind and the predator, and the transfer of national or international experiences.

Based on the compilation of these national and international experiences, a fact sheet summarising the situation of the wolf in a European country will be provided every six months. It will be established based on information provided by the competent authorities of that country. It can include elements on the biological situation of the wolf, public management methods, etc.

These fact sheets will be made available to the public and presented to the GNL.

Finally, experimentation in terms of public information will be carried out. Indeed, it seems necessary to create an information tool for the stakeholders in the wolf file to enable them to gather around information that has been validated and is therefore believed to be reliable by all the protagonists. This involves implementing, over the course of one year, a joint initiative between OPA and APN concerning the analysis of press articles in order to reconcile divergent points of view on the degree of reliability of the information disseminated through the media. It could be a particular medium (website, periodic newsletter, or linking of the two media) whose editorial management would be ensured on a joint basis and by the representatives of livestock farmers and representatives from APNs. This initiative can be conducted in the fashion of the *Décodex* initiated by the major national media.

3) Schedule

	2018	2019	2020	2021	2022	2023

- 4) **Leaders:** Prefect coordinator, Auvergne-Rhône-Alpes DRAAF and DREAL, Department prefects, ONCFS, protected areas (PN, RN, PNR)
- 5) **Partners:** Socio-professional and associative organisations

ACTION 6.2 Develop training

1) Background

Knowledge acquisition enables future livestock farmers and shepherds to more quickly be able to adapt their flocks to predation by the wolf. It also facilitates better knowledge of the issues related to the file, and understanding of the context in which their future activities will take place in the territories.

2) Description of the actions

It therefore seems important to **reinforce information and training actions in agricultural high schools**. They must focus on farm management in areas where the wolf is present, on all the measures implemented as part of the NAP, and on available information sources.

An awareness-raising programme will be established to that end, aimed at learners (pupils, students, apprentices or trainees receiving professional training in agricultural establishments - agricultural institutions, apprentice training centres (CFA) and agricultural vocational training and promotion centres).

3) Schedule

	2018	2019	2020	2021	2022	2023

4) Leaders: MAA (DGER), DRAAF

5) Partners: Agricultural training organisations



APPROACH 7

STUDIES AND FORECASTS

The implementation of the actions provided for in the previous NAPs shows that it is necessary to continue acquiring knowledge about the wolf and its interactions.

The knowledge acquired must enable a greater efficiency of the measures, in order to adopt a dynamic of continuously improving the actions.

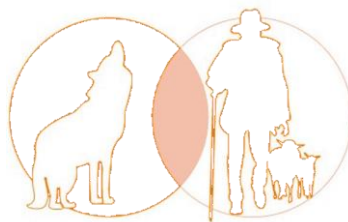
The various actions to be taken have a very large scope: pastoralism and its economy, vulnerability and adaptation of the flocks to predation, effects of the wolf's presence in its environment.

They aim at strengthening support for pastoralism and stock-rearing activity.

Within an adaptive management approach, the results of these studies/experiments will be taken into account to adjust the initially determined actions of the national plan, if necessary.

ACTIONS

- 7.1 Carry out a forecasting study on pastoralism in the context of the wolf's presence
- 7.2 Produce a national mapping of the vulnerability of territories to predation
- 7.3 Re-assess the indirect losses incurred by flocks
- 7.4 Assess the impacts of the wolf on ecosystems, both positive and negative, in particular through the renewal of a predator - wild prey programme
- 7.5 Assess the effect on predation of shooting authorisations granted by the prefects and of wolf culling
- 7.6 Define the best practices to be adopted when the wolf is observed near inhabited areas



ACTION 7.1 Carry out a forecasting study on pastoralism in the context of the wolf's presence

1) Background

In view of the expansion of the wolf in France, of its increasing predation on domestic livestock, of its impact on the livestock farmer's profession, and of the increased costs of flock protection and compensation for victims, **consideration needs to be given to the ability of French pastoralism to sustain itself or develop over the long term in the presence of the wolf.** For this purpose, it is necessary to create meaning and long-term visibility for pastoralism, the wolf, and the resilience of the former when faced with the latter, for each pastoral context.

The capacity to reflect on the wolf expansion phenomenon, on the challenge of reducing predation, and on the development of technical exchanges on this topic, must also be approached on an international scale.

2) Description of the actions

This action consists of carrying out a multidisciplinary forecasting study on a French national scale on the ability of pastoralism to sustain itself and develop over the long term in the presence of the wolf. This study will be carried out by an external service provider selected through a tender process.

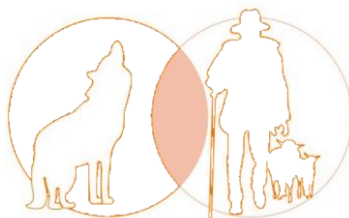
The development of international relations and the commitment to undertake common studies where appropriate, will be necessary.

3) Schedule

	2018	2019	2020	2021	2022	2023

4) Leader: MAA

5) Partners: MTES, DDT(M), DREAL, DRAAF, ONCFS, OPA, APN, Other countries



ACTION 7.2 Produce a national mapping of the vulnerability of territories to predation

1) Background

The analyses performed in recent years on predation tolls reveal significant differences between territories in terms of distribution and concentration of wolf predation, whereas their levels of flock protection and wolf presence are similar.

The farming systems present in some territories show increased sensitivity to predation.

Vulnerability to wolf predation can be assessed prior to the implementation of farming system adaptations and flock protection measures as well as after the deployment of these measures.

For the management of the public policies relating to the wolf and support for **livestock farming, this vulnerability must be able to be objectified so that the management of situations can be correctly anticipated and adapted to the territories** by taking into account the differences in vulnerability of their husbandry systems.

2) Description of the action

To objectify this vulnerability, the proposal is to establish a **national mapping of territories** indicating their respective level of sensitivity to wolf predation.

The mapping of territories must characterise the vulnerability level of the flocks and farming systems to the wolf's presence based on predefined criteria and in particular the foreseeable financial impact of a colonisation. This approach concerns both those territories that have been colonised by the species and those that are not.

In the territories already colonised, the analysis makes it possible to **assess the residual vulnerability after the implementation of protection measures**.

In non-colonised territories, the analysis makes it possible to assess both **the cost of the measures to be implemented by territory** to protect flocks in a relevant manner and **the foreseeable predation level remaining after the implementation of such protection measures**.

The terms of reference for this mapping will be drafted in the first half of 2018; a call for tenders will be launched to select an organisation capable of establishing this mapping.

The results will have to be provided before the mid-term assessment of the national plan (in the second half of 2020). They will be examined as part of this assessment and can be used in the event that it is necessary to adjust certain actions within the plan.

3) Schedule

	2018	2019	2020	2021	2022	2023

4) Leaders: MTES, MAA, Organisation selected following the call for tenders

5) Partners: Public institutions, OPA, APN

ACTION 7.3 Re-assess the indirect losses incurred by flocks

1) Background

The assessment of so-called "indirect" losses on flocks of domestic animals is a recurring theme of questioning which is hampered by the difficulty in objectively assessing the economic impacts of predation on flock production.

Besides the indirect effects of predation (cost of predated animals), it is indeed acknowledged that **predation can lead to effects in terms of stress of the animals, and can have consequences on their reproductive and production potential.**

These effects vary mainly according to the type of production, the size of the flocks, the physiological stage of animals and predation pressure (intensity and frequency).

In the last few years, it was not possible to objectify such consequences.

Furthermore, the issue becomes more complex when it comes to assessing these losses when, after an initial phase of predation on flocks that are being adapted to and protected from predation, the aim is to show objectively the remaining losses for a flock correctly protected after several years of predation compared to a "wolf-free" context.

At this point in time, the compensation procedures are based on a flat-rate compensation per animal making up the flock, taking into account this flock size and the level of attacks.

2) Description of the action

The aim is to **better objectify the so-called "indirect" losses incurred by flocks.** To that end, a study should be conducted, based on terms of reference to be established at the beginning of the national plan (2018).

To establish these terms of reference, a **working group will be formed, including representatives from the GNL and qualified experts.** This working group will have to examine the option to be chosen to conduct the study: either a study on one or several flocks suffering from recent or prior predation; or a "statistical" study on a large number of flocks - without a field analysis - based on their zootechnical and economic results in a context without predation, with new predation, and with prior predation.

3) Schedule

	2018	2019	2020	2021	2022	2023

4) Leaders: MTES, Auvergne-Rhône-Alpes DREAL

5) Partners: OPA, public institutions and technical farming organisations

ACTION 7.4 Assess the impacts of the wolf on ecosystems, both positive and negative, in particular through the renewal of a predator - wild prey programme

1) Background

The role and the place of the wolf in the ecosystem were studied through a first component of the predator-prey programme implemented between 2007 and 2013. Information on the results was disseminated through the publication of several popularisation and communication articles relating to the mortality rates of wild prey and the evidence of the non-homogeneous use of the territory by the wolves (Faune sauvage N° 306; Grande Faune N° 144; Bulletin Loup du Réseau N° 26 and 27, forum ADCGG 2014). This knowledge of the wolves' territory use strategies, until now not documented in a sufficiently detailed manner via indicator-based monitoring, enables the measurement of predation pressure, which differs according to the microsites within the home range of the pack.

2) Description of the actions

On this basis, a new set-up was developed to echo the new questions raised. It includes the detailed measurement of the predation pressure exerted by wolves tracked by GPS in a hunted site in order to study the respective roles of hunting and predation on wild animals. It will also include the pastoral dimension of impacts of the wolf according to the position of the flocks and predation pressure. A scientific project has been developed and approved by the scientific committee of ONCFS. A flyer was designed to identify the project for its audiences. A scan of potential study sites will be performed for a technical and operational feasibility study. This new project is able to **better determine the predation pressure on wildlife and domestic animals by integrating human practices** (hunting and pastoral). Until now, these impacts have been revealed only by reported attacks on flocks or prey carcasses found. However, predation pressure can be effective even if no attack on prey has been recorded. The knowledge of interactions between the wolf, wild and domestic prey in its eco-systemic dimension is a necessary prerequisite to have practical decision-making support tools for species and land management in their entirety. The expected products fall under 5 potential results:

- **mapping of the predation risk** on a massif for wildlife and domestic flocks;
- **consideration of predation in hunting management plans** and in the process for assessing the constraint of pastoralism practice in a wolf zone;
- **wolf management support**;
- adaptation of the **tools for monitoring wild ungulate populations** and the ungulate-environment equilibrium;
- **forest damage management** in response to the concentration (or dispersion) of ungulates.

This project can only be envisaged with a **long-term vision (10 years)** so as to detect all the potential sources of variability interacting in such a complex system. The participation of hunting, forestry and agricultural partners in the project on the study site is a prerequisite. **A steering committee, a communication committee and a scientific committee** will enable all the parties to express themselves. Intermediate results will be regularly produced without waiting for the conclusions at the end of the decade.

3) Schedule

Action over 10 years

	2018	2019	2020	2021	2022	2023

4) Leader: ONCFS

5) Partners: Hunting, forestry, and farming organisations

ACTION 7.5 Assess the effect on predation of shooting authorisations granted by the prefects and of wolf culling

1) Background

The work undertaken prior to the drafting of the NAP showed the need to assess **the effect on predation of shooting authorisations granted by the prefects** (deterrence effect) on the one hand, **and of wolf destructions** on the other hand, by taking account of the effects induced by possible changes in the population structure (dispersal, reconfiguration of pack territories, intra-specific competition, and so on).

Indeed, exempted shooting on the wolf population aims at mitigating wolf pressure on livestock farms. These shootings have been implemented more intensively since 2014, with about 130 animals culled in recent years throughout the country. Before 2014, assessing the effect of these shootings on the levels and/or recurrence of damage was limited by a number of events the convergence of which remained impossible owing to their different situations. The last four years of operation open up today the possibility **of studying statistically these effects** on the damage on different temporal (short and medium terms) and spatial (very localised or more global) scales. These shootings also impact the social structure of wolf groups by disrupting their space use, their hunting strategy, and the mechanisms of competition with competing packs. These changes in territorial use by the members of a pack, in return, might impact the dynamics (positively or negatively), the damage to flocks, as well as the mechanisms of establishment of new social groups.

2) Description of the actions

The aim is to assess the impact of shooting, based on the available data, by making the best use of proven mathematical methods.

Implementation

Impact of the different types of shooting on:

- **the wolf population** (its local structure, its overall demography, if possible);
- **the damage to flocks;**
- **the acceptability of the wolf's presence** (political aspect to be studied, locally and globally).

The study will be conducted over a period of **three years**; intermediate results will be provided.

In a second phase, it may be considered to invest this field on a representative panel of field situations by using the finer tools for monitoring a wolf pack (GPS and/or intensive genetics).

3) Schedule

	2018	2019	2020	2021	2022	2023

4) Leaders: ONCFS, Auvergne-Rhône-Alpes DREAL

5) Partner: CNRS

ACTION 7.6 Define the best practices to be adopted when the wolf is observed near inhabited areas

1) Background

Owing to its opportunistic character, the wolf is able to adapt and live in a broad range of habitats and environmental contexts. In Europe, wolves occur in environments devoid of human presence (high mountains, forests, etc.) as well as in anthropised habitats (bocage, urban periphery, etc.)

In recent years, several situations pertaining to the presence of wolves in the vicinities of mountain villages have been described. Very often, the animals approach wild ungulate populations in their wintering areas which coincide with anthropised areas.

Most of the cases of interferences between humans and wolves, reported in the bibliography, predate the return of the wolf in France; these situations were moreover encountered in contexts different from the current one.

Due to the expansive nature of the species' distribution range and the colonisation of new territories where human presence is more marked, cases where the wolf is observed near inhabited areas could become more frequent.

In this context, the presence of wolves in the vicinity of dwellings can raise questions or fears among the populations concerned and therefore deserves to be considered so that best practices can be applied in such circumstances.

2) Description of the action

The aim is to experiment, throughout several departments, with the application of measures to properly manage situations where wolves are observed near inhabited areas. Special attention will be paid to the communication and information initiatives to be implemented. At the end of this experimentation, a best practices guide in this area will be drafted and circulated.

This action will be defined and implemented in close cooperation with the local elected officials (in particular mayors).

This work includes the following steps:

- a working group, uniting the relevant stakeholders and in particular the volunteer mayors to conduct the experimentation, will draft an experimental guidebook on the actions to be taken if wolves are present in the vicinity of dwellings;
- the areas where this experimentation will be conducted will be determined on the basis of the volunteering of territories; the experimentation will be carried out for two years and will be followed up by the working group initially set up;
- An assessment of this experimentation will be made; in conjunction with the Scientific Committee of the NAP and the GNL, and in light of the lessons learned from the experimentation, a good practice guide will be drafted and circulated.

3) Schedule

	2018	2019	2020	2021	2022	2023
	Drafting of the experimental guidebook	Experimentation	Experimentation	Assessment Drafting and dissemination of the best practices guide		

4) Leaders: Prefect coordinator (Auvergne-Rhône-Alpes DRAAF and DREAL), MTES and MAA, mayors

5) Partner: ONCFS, DDT, OPA and APN



The oversight

1. The French National Wolf Group

The French National Wolf Group (Groupe National Loup - GNL) is a place of information and exchanges on the implementation of the NAP. The administration presents the assessments resulting from the implementation of the national plan as well as the related draft regulations.

The national group is chaired by the "wolf" prefect coordinator of the Auvergne- Rhône-Alpes region. It is composed of representatives from the national socio- professional and associative organisations concerned by the subject, administrations, as well as governmental public-sector institutions and organisations with scientific and technical competence. Elected officials will be represented within the GNL (National Assembly, Senate, National Association of Elected Representatives from Mountain Areas, Association of French Regions). Its composition will ensure a balance between the different interest groups, by favouring the most representative organisations.

It is not an organisation that deliberates on the projects submitted to it. It must facilitate the exchange of views between the stakeholders involved in order to achieve a balanced treatment of the file in view of the various issues at stake.

Lastly, a detailed roadmap of the NAP will be developed to enable the planning and follow-up of its various actions. This document and its filling in during the NAP will make it possible to inform the GNL (now meeting at least three times a year) as well as the members of Parliament (for the latter, for example, once a year). This roadmap will be made available to the public on the State's website dedicated to the wolf.

2. The Standing Scientific Committee of the National Action Plan

Insofar as the plan is part of an adaptive management approach that makes it possible to adjust public intervention to the progress of knowledge, the scientific and participative investment on the subject should be continued, having regard to the progress expected in the years to come on the public intervention. Therefore, the same setup as that which operated successfully in the past months during the forecasting approach on the wolf will be used: scientific studies on the one hand to objectify the questions and a working group (the GNL presented in the preceding paragraph) associating the parties who will have the opportunity to improve the "*in itinere*" scheme throughout the duration of the plan.

These studies concern in particular a better knowledge of the wolf's ethology in the agro-pastoral system, the effects of interventions on the wolf population and predation, the impacts of the wolf on natural habitats, wolf deterrence and shooting techniques, and flock protection techniques.

In this context, **a permanent scientific expertise is set up for the follow-up of scientific and technical studies on the wolf** to guarantee consistency and relevance for the purpose of public action. For the entire duration of the plan, it is provided by a **standing scientific committee of the NAP**. The results of these studies and their follow-up will be regularly brought before the administration and the national wolf group to adjust the actions in the NAP, if necessary.

It is chaired by a recognised scientist and made up of representatives from the public institutions concerned, from the French Foundation for Biodiversity Research, and scientific and technical experts. **The composition of this scientific committee will be subject to a specific selection process.**

3. The missions of the prefect coordinator

The prefect coordinator is in charge of assisting the department in the implementation of the actions in the national plan, by ensuring the harmonisation of practices. Nevertheless, he takes into account the specificities of the territories and their varying sensitivities to wolf predation as well as the predation contexts. He is required to develop and disseminate instructions to the department prefects for the implementation of the actions in the national plan. He ensures in particular that the authorised destructions of wolves are consistent with the different predation pressures reported in the territories; he ensures that the annual ceiling of wolves that may be killed is complied with. He conducts assessments and analyses resulting from the implementation of the national plan, based on information provided by the departmental prefects. He proposes to the ministers the necessary adaptations to be made to the schemes.

He provides communication on the assessments of the national plan.

The prefect coordinator has an enhanced role to carry out these missions compared to that of the previous NAP.

He is supported by the services of the DREAL and the DRAAF of the Auvergne-Rhône-Alpes region.

4. The missions of the regional level

The regional administrative level has important competences for the organisation of public policies, in a context of increasing decentralisation. The actions conducted at this level enable a consistent application of the public policies on the scale of the territories. The Regional Councils are in particular rural development management authorities (EAFRD); **a reinforced mobilisation of these local authorities therefore enables better support for livestock owners.** The regional prefects and the presidents of the regional councils jointly endeavour to establish a policy to support livestock farms confronted with wolf predation, in line with the objectives of the NAP, by using the action levers at their disposal.

5. The missions of department prefects

The department prefects also have a broader role for the organisation of the measures provided for in the NAP in their territory in order to reach local solutions in partnership with the stakeholders and to avoid over-solicitation of the ministerial levels on local events.

The department prefect mobilises all means of support available to assist livestock owners (technical farming support by mobilising in particular the CAs and their technical means, appointment of volunteer mediators, social support for livestock owners in need, mobilisation of official wolf hunter lieutenants and hunters, mobilisation of the managers of protected areas, etc.) **He ensures that the conditions for meaningful dialogue between the departmental stakeholders concerned are created**, in particular on the topic of the difficult situations encountered by livestock owners, in order to arrive at the best possible solutions.

Communication in the media must also lie primarily with the departmental prefects, as part of a concerted approach at national level.

They are supported by the services of the DDT(M) and the departmental service of ONCFS.

A specific governance is put in place at the departmental level in all areas colonised or undergoing colonisation.

A departmental wolf committee is set up; this committee unites all organisations and institutions concerned, elected officials and experts; the representatives of the prefect coordinator participate as necessary.

In the departments adjacent to the areas already colonised, a watch unit is also set up.

In case of need, the prefects create within the departmental wolf committee **a restricted committee responsible for monitoring the efficiency of protection measures** (based on the data provided by the observatory of protection measures) and the prevention and management of attack outbreaks. Besides its role in supporting the administration, this committee has the advantage of enabling shared positions to emerge at local level, as far as possible, for handling difficult situations.

6. The role of protected areas

The national parks (PN), the regional natural parks (PNR), as well as the natural reserves (RN) are key areas for experimenting with protection and deterrence measures.

The PNs undertook to implement an action programme on their territory for the biological monitoring of the wolf, aid for livestock owners and knowledge acquisition. The same is true for national RNs.

The PNRs facilitate the application of the measures of the national plan in their territory; they have a particular role in experimentation with innovative devices/schemes.

7. Cross-border and international cooperation

The objectives of the cross-border and international cooperation must be the following: **agree alongside neighbouring countries hosting a wolf population upon the ecological objectives to be achieved** with a view to ensuring the good conservation status of the wolf population and its long-term viability; **exchange views on the best practices** for managing the file within the framework of the regulations (Bern Convention, "Habitats, Fauna and Flora" Directive); **facilitate international initiatives** involving the players in this matter for the purpose of sharing information and practices.

The cross-border and international cooperation requires in particular the participation in the working groups convened by the Bern Convention, the European Commission and the Alpine Convention. The particular relevance at this stage of an involvement in the "WISO" (Large carnivores, wild ungulates and societies) platform, bringing together all the countries of the Alpine arc, should be emphasised. Trans-border cooperation with Spain and Andorra is organised within the framework of the Pyrenean Strategy for Biodiversity Enhancement (Stratégie pyrénéenne de valorisation de la biodiversité - SPVB) which provides for regular meetings between the three countries to address the common issues relating to the presence of the wolf in the territories.

A biological monitoring of the species' distribution range in Western Europe is organised; ONCFS participates in this monitoring within the framework of the existing technical networks. This international monitoring should be sustained in order to have scientific and technical elements to take into account to guarantee the viability of the species.

Finally, French representatives will participate in scientific and technical seminars organised on the wolf at the European level in order to share the knowledge acquired on the national territory and to draw on the experiences of other countries concerned by the presence of the wolf.

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