

Role of territorial stakeholders in the management of risks arising from interactions between wildlife and pastoral livestock systems

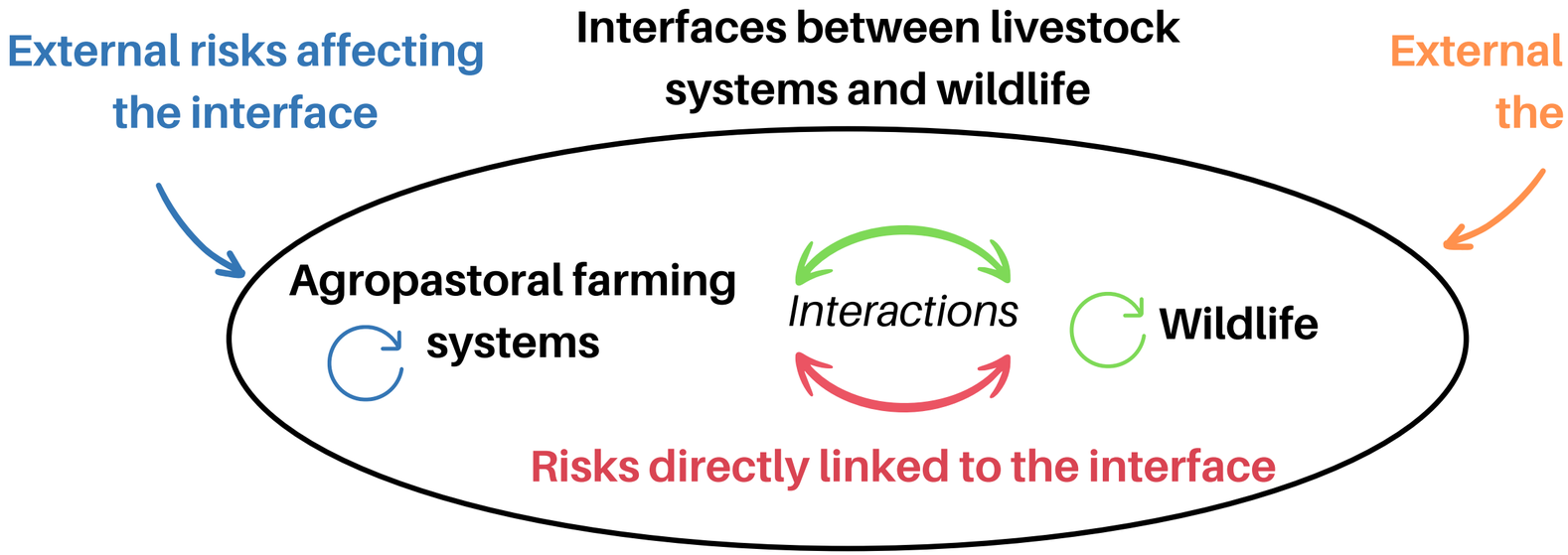
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1.University of Clermont-Auvergne, France / 2. VetAgro Sup, France
3. UMR Herbivores, INRAE, VetAgro Sup, France / 4. DAFNAE, University of Padova, Italy

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Hamburg, Germany

Context : mountain livestock systems under pression

Mountain livestock systems operate within complex socioecological environments where farming activities, wildlife and human uses coexist. **Interactions between wildlife and livestock farming can generate sanitary, social, environmental, and predation risks**



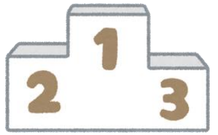


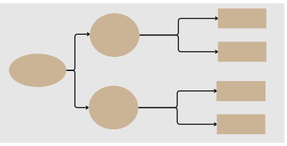
This study aims to analyze, through the perspectives of the suveys:

How territorial stakeholders intervene in the management of wildlife-related risks within pastoral systems ?

Materials and methods

Questions that guided the analyses

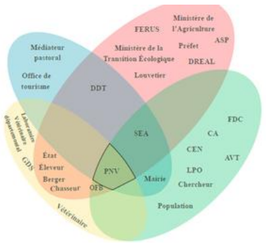




1) What are the impacts related to the presence of wildlife within pastoral systems?



2) Which actors are involved in managing the interactions between wildlife and pastoralism?



3) Which actors are involved in risk management and how?



4) What are the views of the people interviewed ?



5) What do their think about future prospects regarding risk management between wildlife and pastoralism?

Materials and methods

Development of a semi-structured interview guide & sampling

1) Introduction of the person

- *Missions and role*
- *Issue*

s

2) Pastoralism: challenges and developments

- *Main challenges and evolution of practices*
- *Type of actors involved in pastoralism*

3) Link with wildlife

- *Interactions between pastoralism - wildlife*
- *Key issues*
- *Actors in the management of interactions*

4) Risks related to interactions

- *Risks related to interactions between pastoralism - FS*
- *Predominant risk, most risk worrying*

5) Risk management and coexistence

- *Cohabitation and obstacles*
- *Future of management*
- *Summary of the actors involved (diagram)*

6) Personal point of view

- *Personal viewpoint on risk management between wildlife and pastoralism*



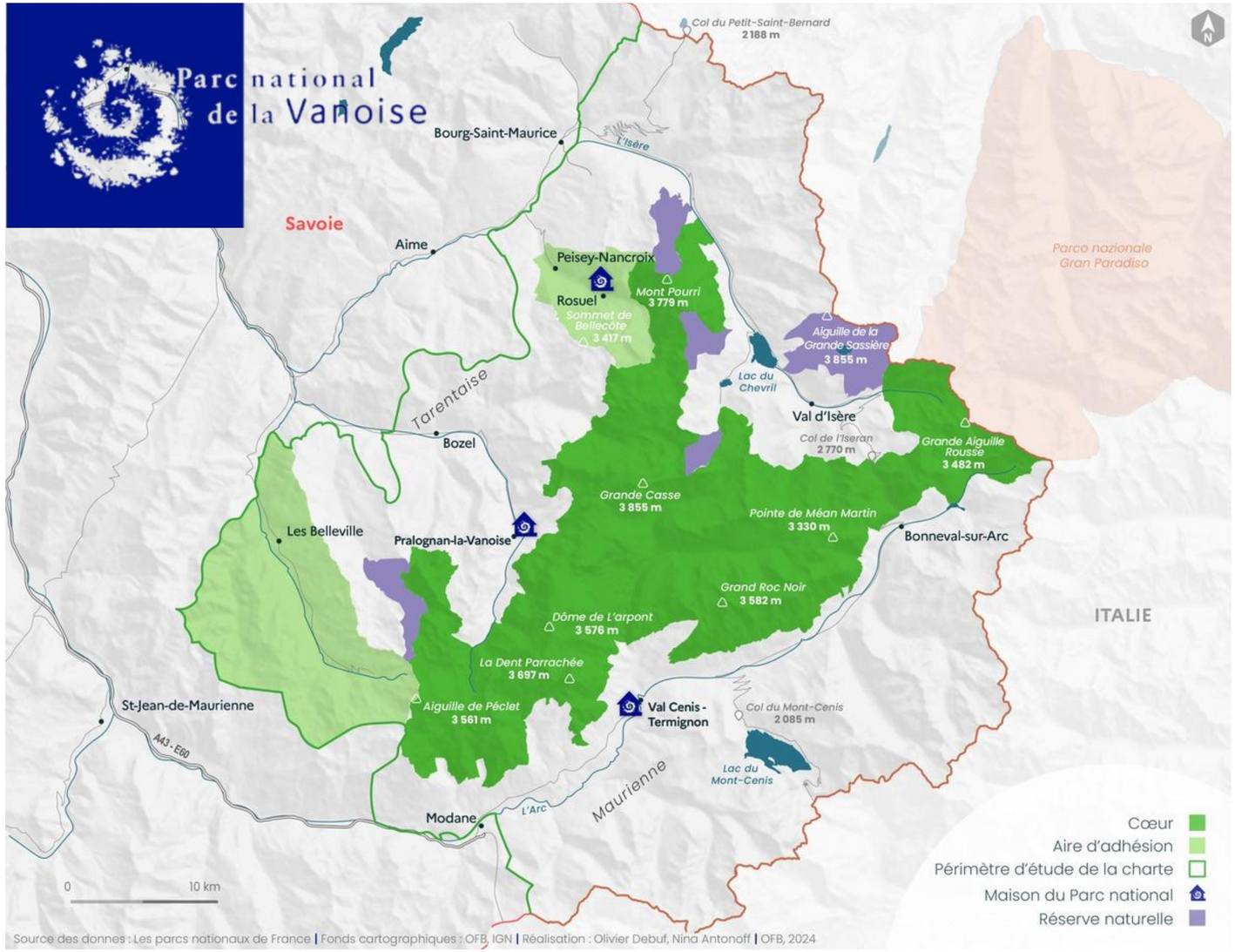
Parc national de la Vanoise

25 interviews: socio-economic actors or institutions

+ 14 street interviews: *open questions and discussions with residents, tourists, shopkeepers…*

Materials and methods

Study area within and around the national park of Vanoise in French Alps



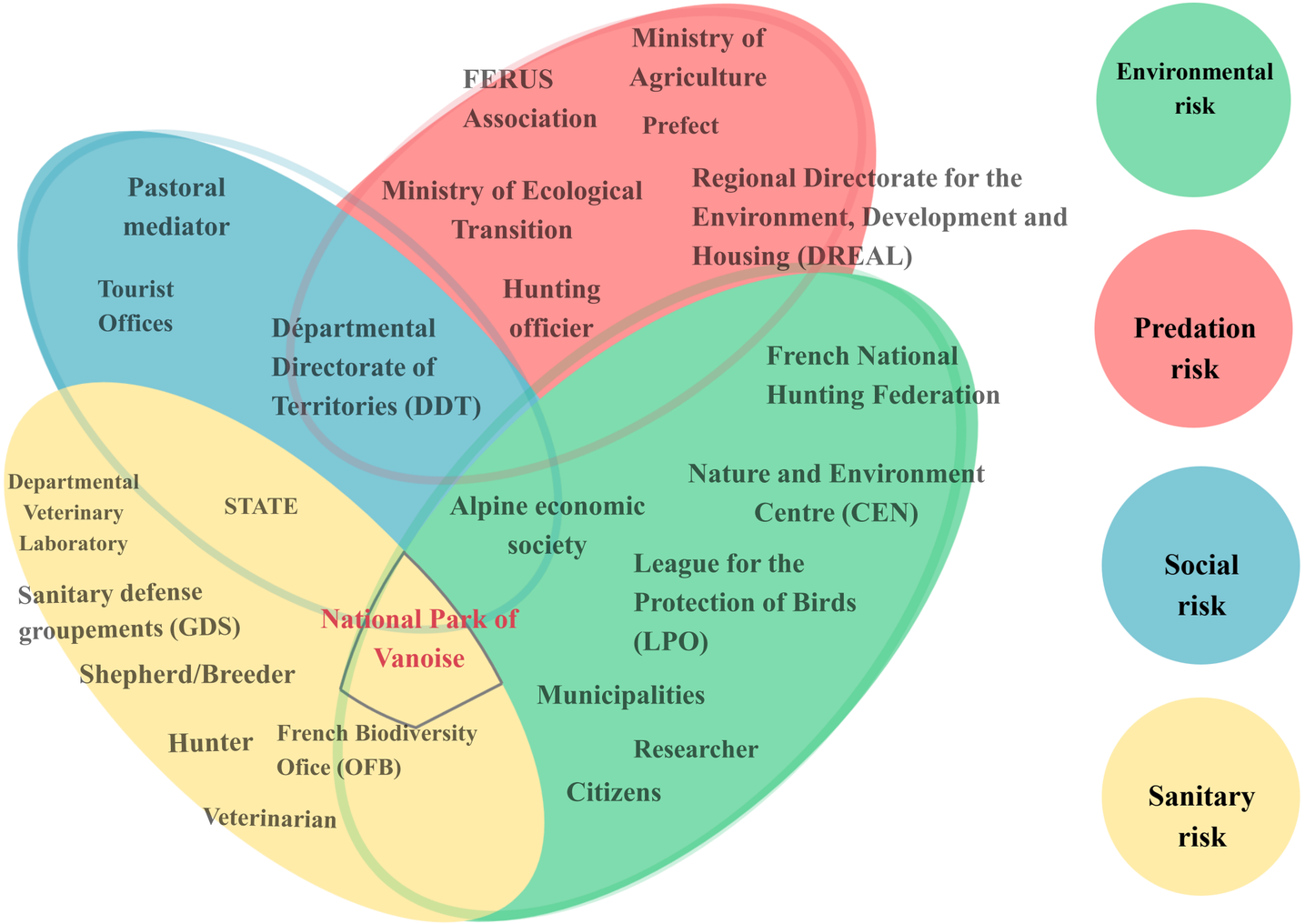


- Mountainous area known for its rich diversity of flora and fauna
- France's first national park
- Pastoralism with high-added value products
- One of the most predated

Keys results

Actors involved in risk management

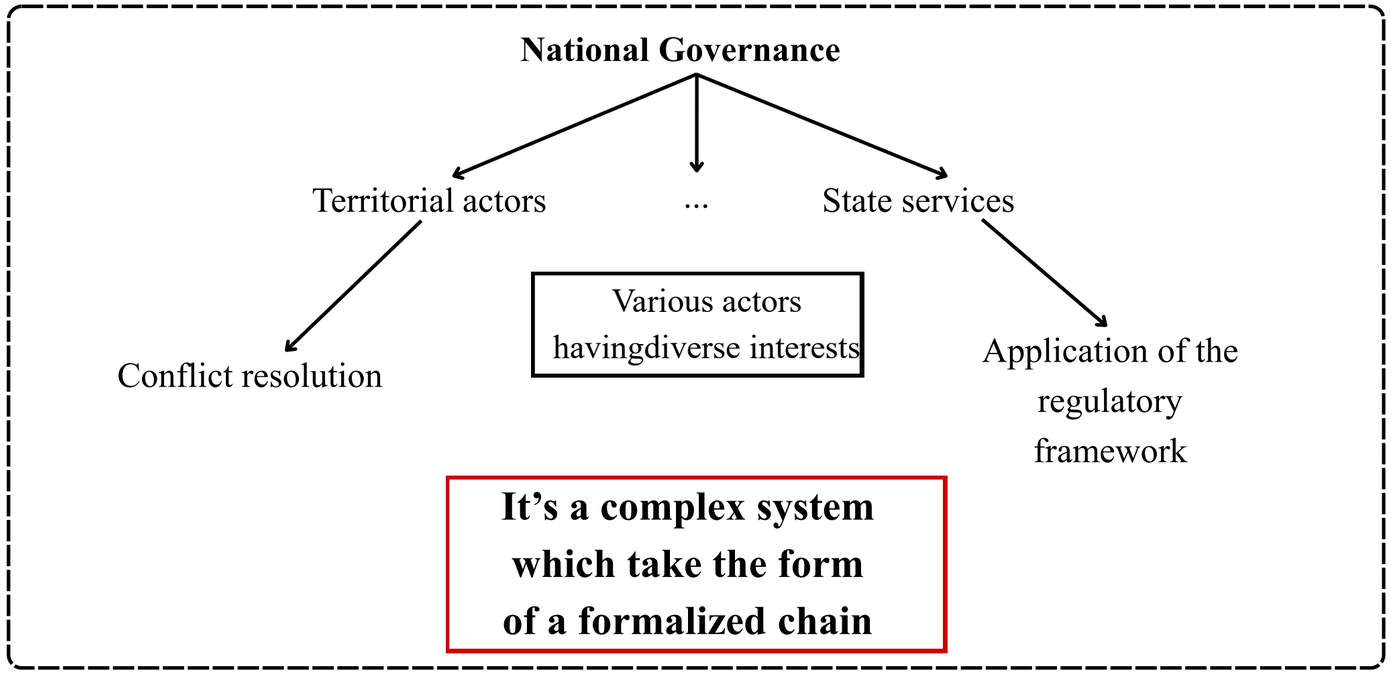
Overview of French stakeholders involved in the management of different types of risks



- Overlap between the roles and responsibilities of these different stakeholders
- Complementarity of actors
- Multi-functionality of the actors
- Despite this strong interconnection: risk management remains largely fragmented

Keys results

Example of managing the risk of lupine predation: national governance



Multi-layered governance system

→ layering of levels and skills

Confusion of everyone's roles

The feeling that no one is managing in its entirety

+

Feeling of a loss of control over management

Tensions

Misunderstandings

Increase in overall cost

Weight of the measures

Protection + compensation

Regulations and participation

Challenges:

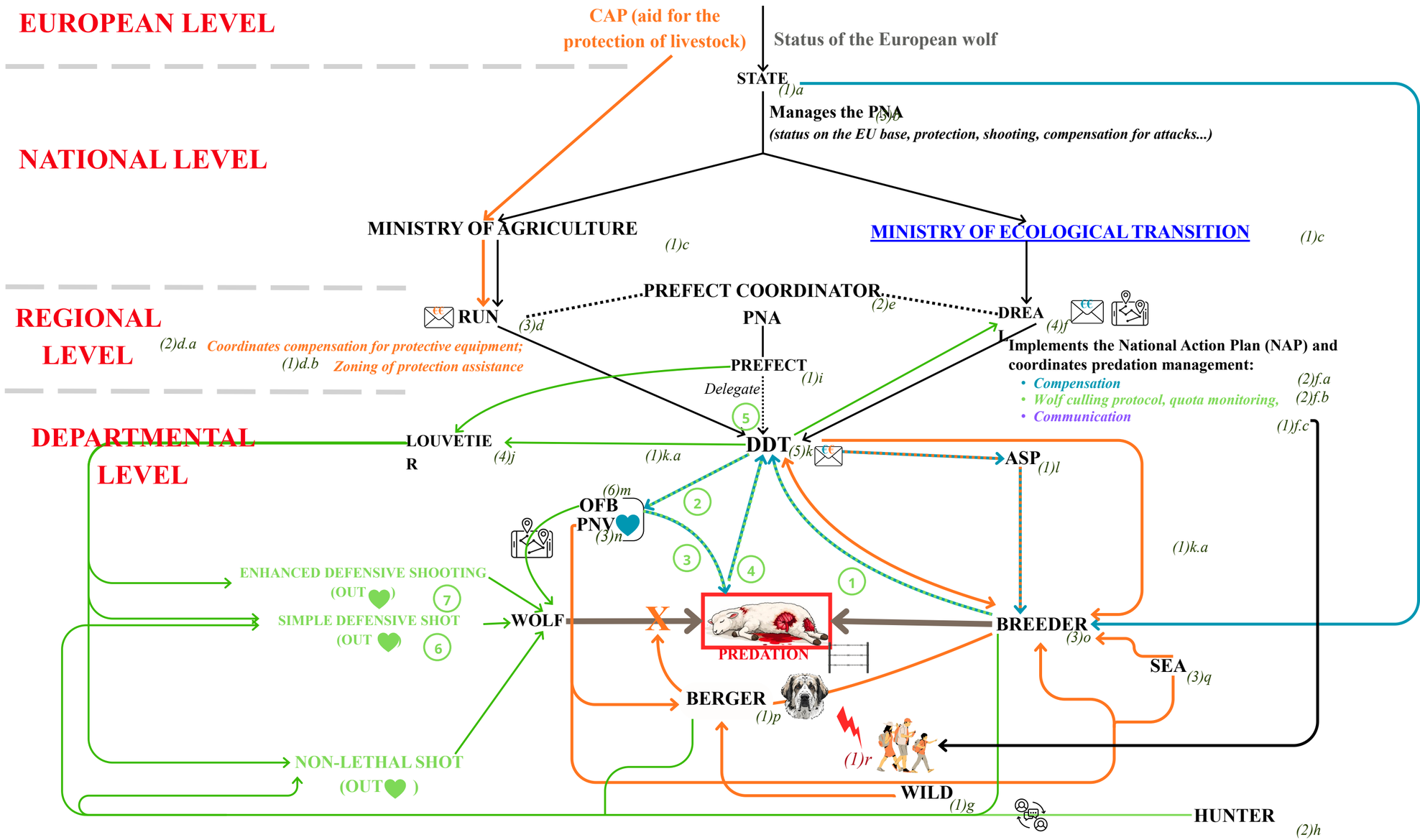
- Legitimacy, Perceived
- Justice, Judgments →
- Political Influences

Parc national de la Vanoise

Keys results

Example of managing the risk of lupine predation: national governance

- **Multi-level management**
- **A multitude of interacting actors**



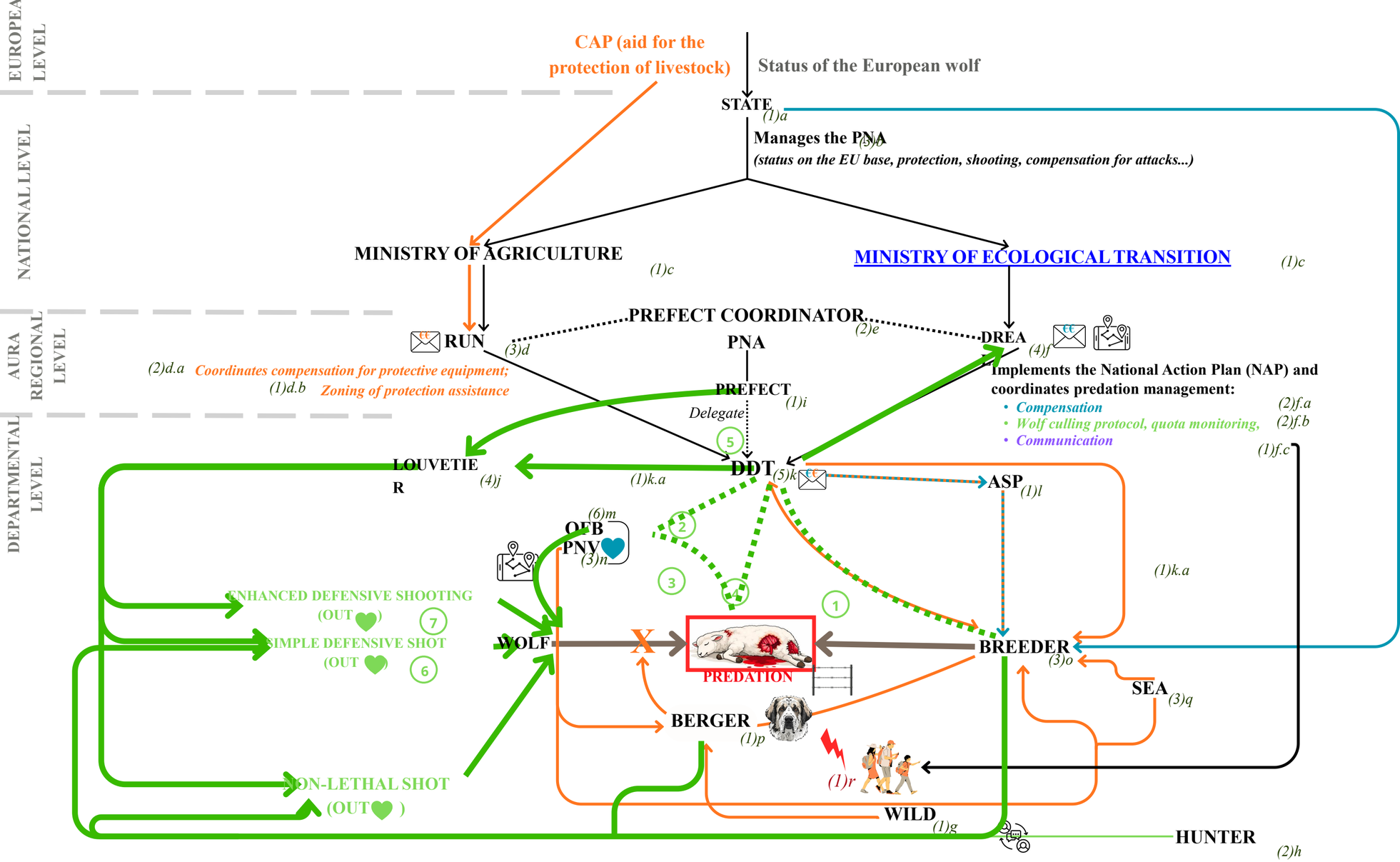
Parc national de la Vanoise

Keys results

Example of managing the risk of lupine predation: national governance

AUTHORISATION AND CARRYING OUT OF WOLF CULLS IN THE EVENT OF AN ATTACK

- A all process for declare the damage or ask autorization for culling
- Specific actors
- Mostly department level



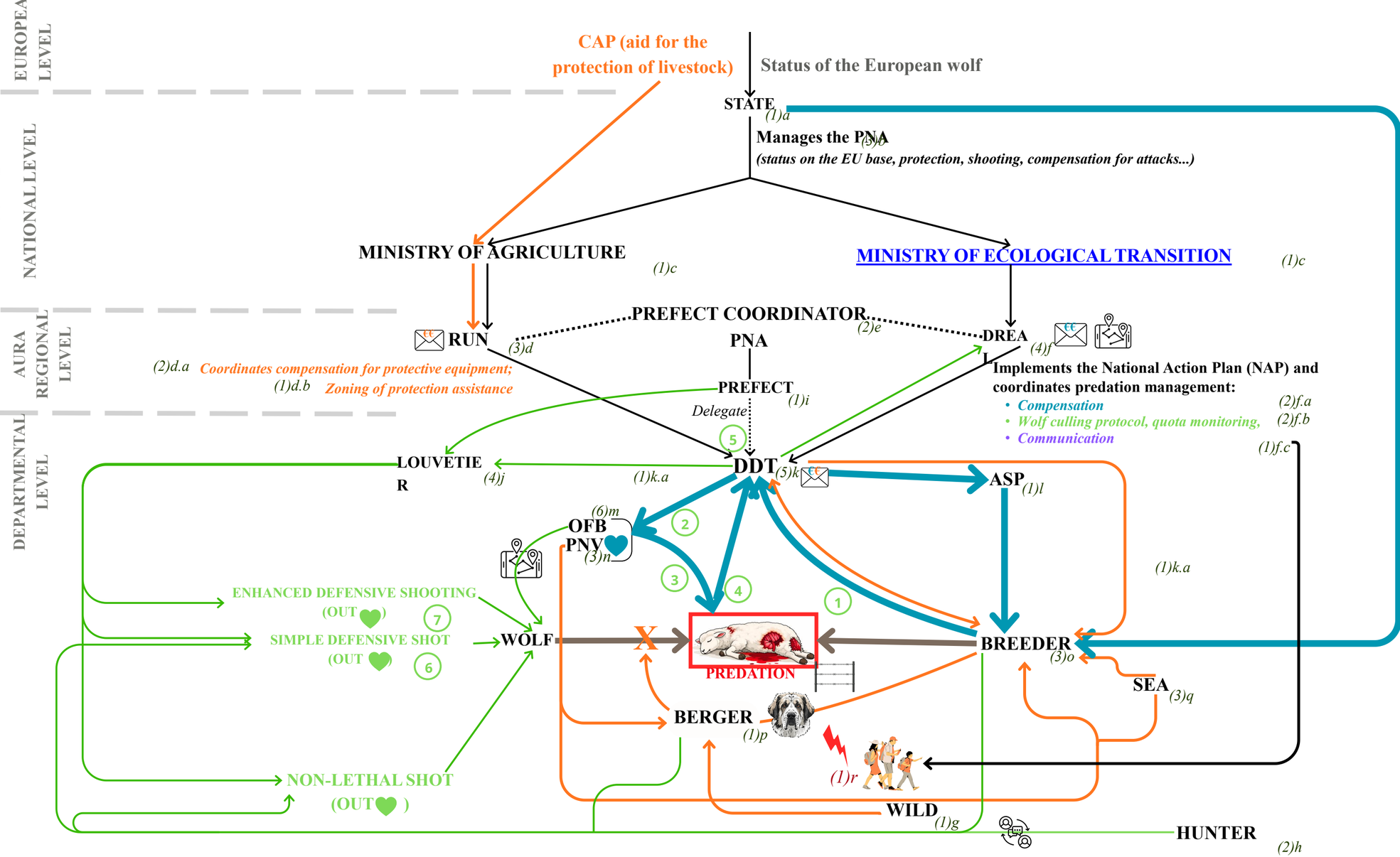
Parc national de la Vanoise

Keys results

Example of managing the risk of lupine predation: national governance

COMPENSATION FOR LIVESTOCK FARMERS IN THE EVENT OF AN ATTACK

- Others specific actors for manage compension
- National scale



Legend :

- Species monitoring (location of attacks...)
- Conflicts / Tensions
- Interactions between actors/collaboration
- Core area of the National Park
- Budget allocation used for compensation
- Information request, administrative explanation
- € Compensation
- Compensation for farmers in the event of an attack
- Aid for livestock protection measures
- Authorization and execution of wolf shootings in case of attack

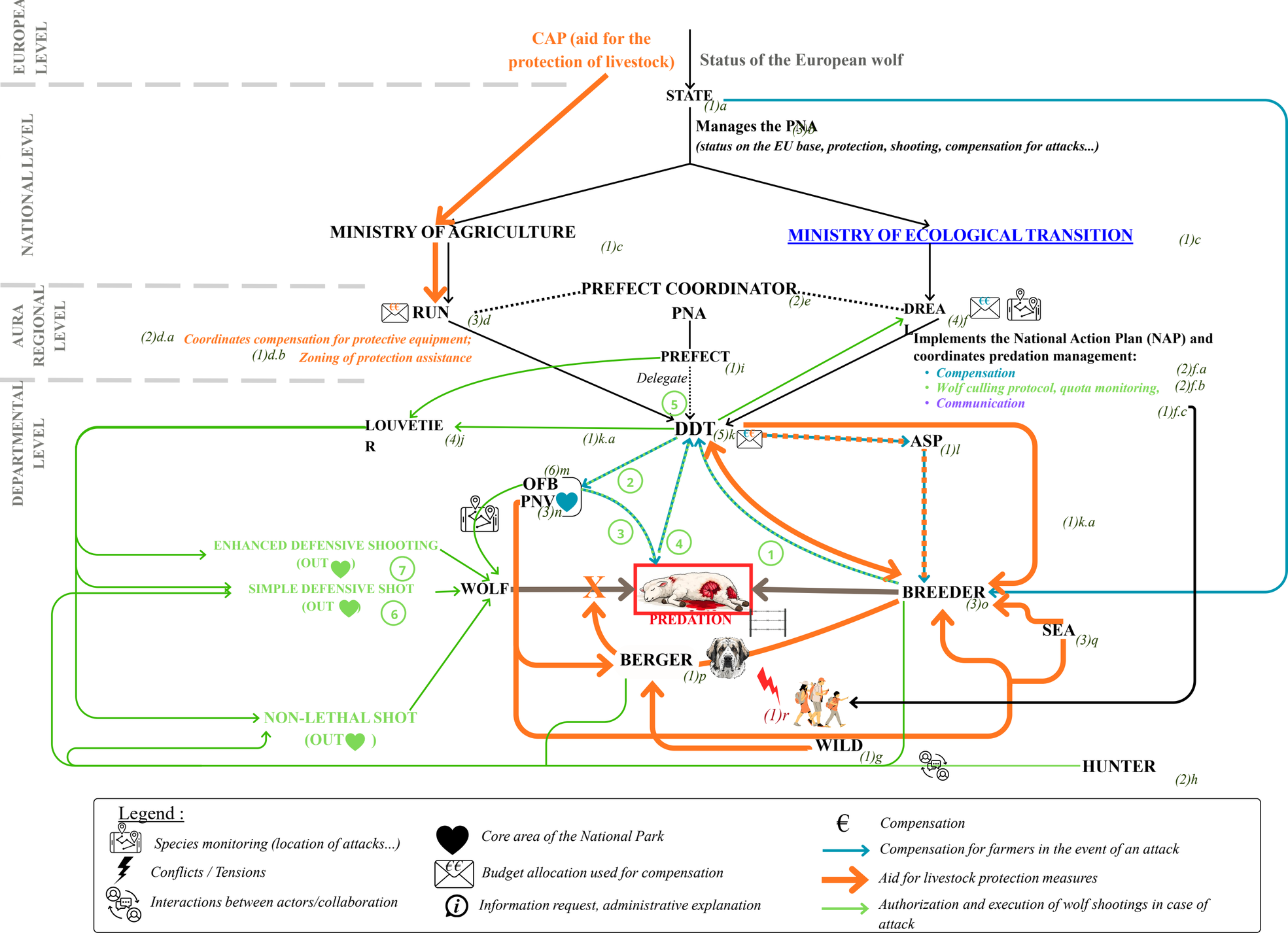
Parc national de la Vanoise

Keys results

Example of managing the risk of lupine predation: national governance

INCOMPENSATION FOR MEASURES TO PROTECT HERDS

- **Aids come from european level and are manage more specifically at the deparmental level**



Legend :

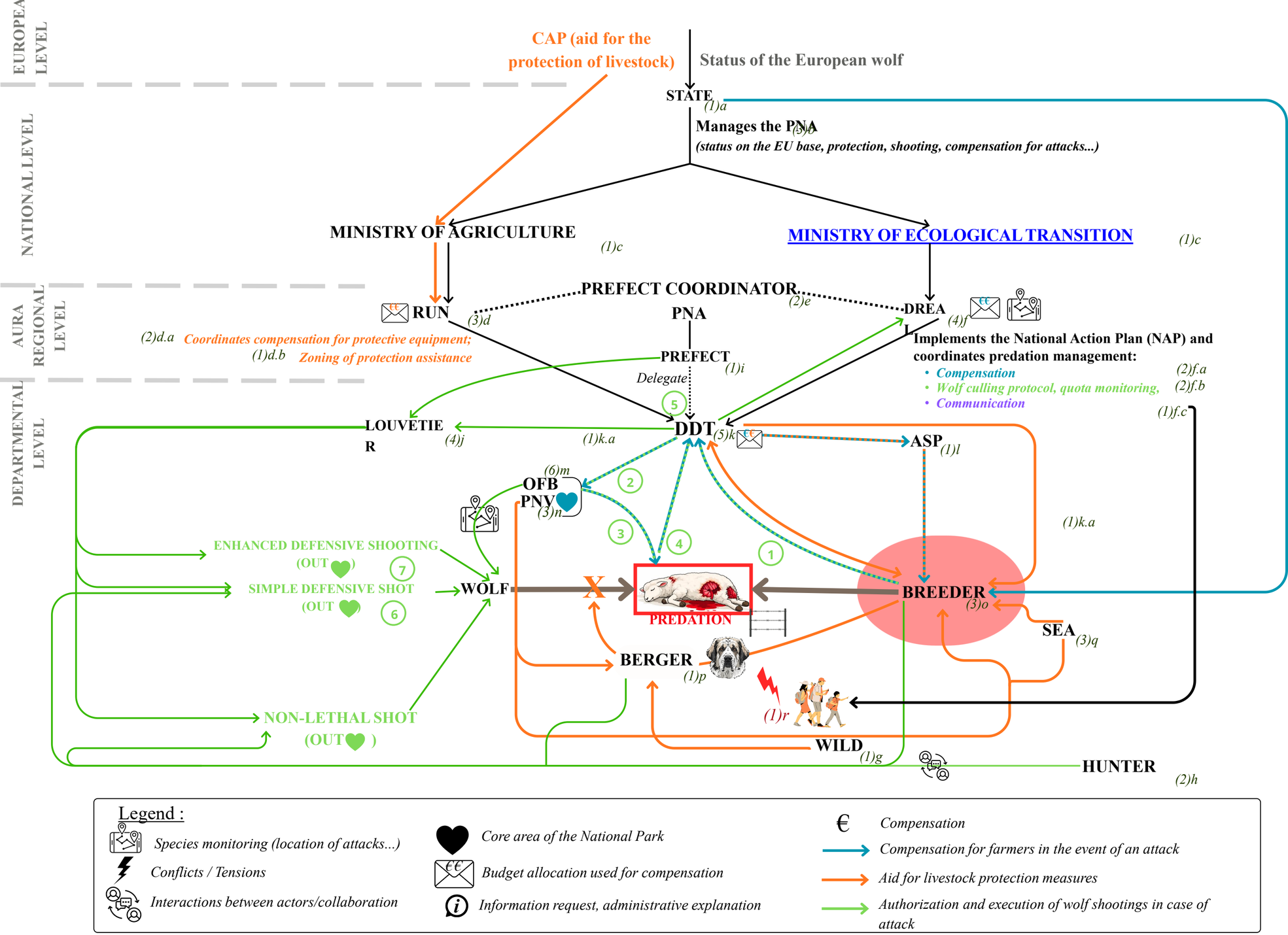
- *Species monitoring (location of attacks...)*
- *Conflicts / Tensions*
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- *Core area of the National Park*
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Parc national de la Vanoise

Keys results

Example of managing the risk of lupine predation: national governance

- **The farmer central role in managing that risk and multiple risk in general** (sanitary aspects, social risk, competition for ressources…)



Legend :

- Species monitoring (location of attacks...)
- Conflicts / Tensions
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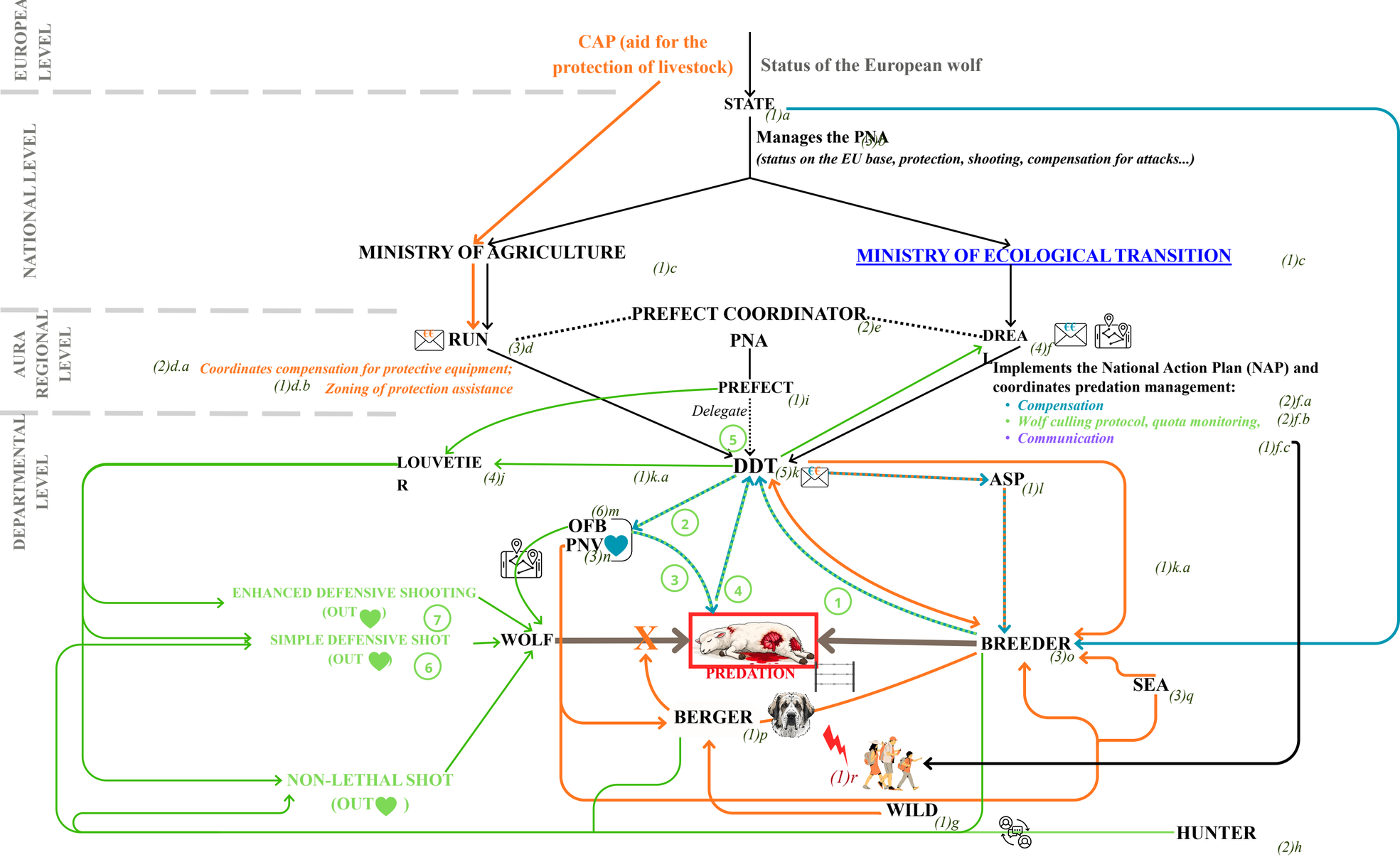
Parc national de la Vanoise

Keys results

Example of managing the risk of lupine predation: national governance

- Despite this complex articulation, the risk of predation by wolves is considered to be completely unmanaged

"As for the wolf, no, nothing is being done about it"
Respondent, 12/2025



Legend :

- Species monitoring (location of attacks...)
- Conflicts / Tensions
- Interactions between actors/collaboration
- Core area of the National Park
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Parc national de la Vanoise

Conclusion

- **A complex multi-level governance system** involving **a plurality of stakeholders and key actors** whose **roles sometimes overlap**.
- **The multiplication of levels of intervention leads to confusion** regarding the role of each stakeholder, thereby fueling **misunderstandings and conflicts**.
- **Interventions are sometimes seen as poorly coordinated and ill-adapted to territorial needs** although managment measure are implemented.
- These views are exacerbated by the **divergent interests of the various stakeholders**, thus **reinforcing the difficulties involved in implementing shared solutions.**
- **Improving mechanisms for consultation, communication processes, and recognition of local knowledge appears essential to fostering a sustainable and socially acceptable coexistence**



Conclusion

How can we manage efficiently multiple risk at wildlife-pastoral farming system interface ?

Towards context-specific, systemic and territorialized approaches to multiple risk management…



Sheep and ibex, Cime d’Auta, Italy, July 2025

Thank you for your attention ! Any questions ?

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We sincerely thank all the stakeholders who participated at this project, as well as all the students ***involved : Charlotte Bellanger · Mohammed Ben Abdellah · Laura Chaland · Hugo Debay · Honorine Faber · Chloé Gauvrit · Insaf Mokrani · Mathilde Ockman · Edgar Ruelle and the teachers who contributed : Audrey Michaud and Adeline Vedrine***

Take-home references

CUKIERMAN, Caroline, 2020. Rapport d'information fait au nom de la mission d'information « Quel rôle, quelle place, quelles compétences des départements dans les régions fusionnées aujourd'hui et demain ? ». Sénat.

DEPRAZ, Samuel et LASLAZ, Lionel, 2017. Conflicts, acceptance problems and participative policies in the national parks of the French Alps. eco.mont (Journal on Protected Mountain Areas Research). pp. 46-56.

PETRIDOU, Maria et KATI, Vassiliki, 2025. Are Wolves the Real Problem? Challenges Faced by Livestock Farmers Living Alongside Wolves in Northwestern Greece. Sustainability. 28 janvier 2025. Vol. 17, n° 3. DOI 10.3390/su17031083.

Virapin et al., 2026, Multiple risk analysis at the interface between pastoral livestock systems and wildlife. Pastoralism, Volume 15 – 2026. https://doi.org/10.3389/past.2025.15413



3) Parmi les acteurs qui interviennent dans la gestion de ces interactions, lesquels interviennent dans la **gestion des risques** et **comment** ?

Parc naturel de Paneveggio - Pale di San Martino (N=8): Gestion du risque de prédation et du risque social

RISQUE DE PRÉDATION

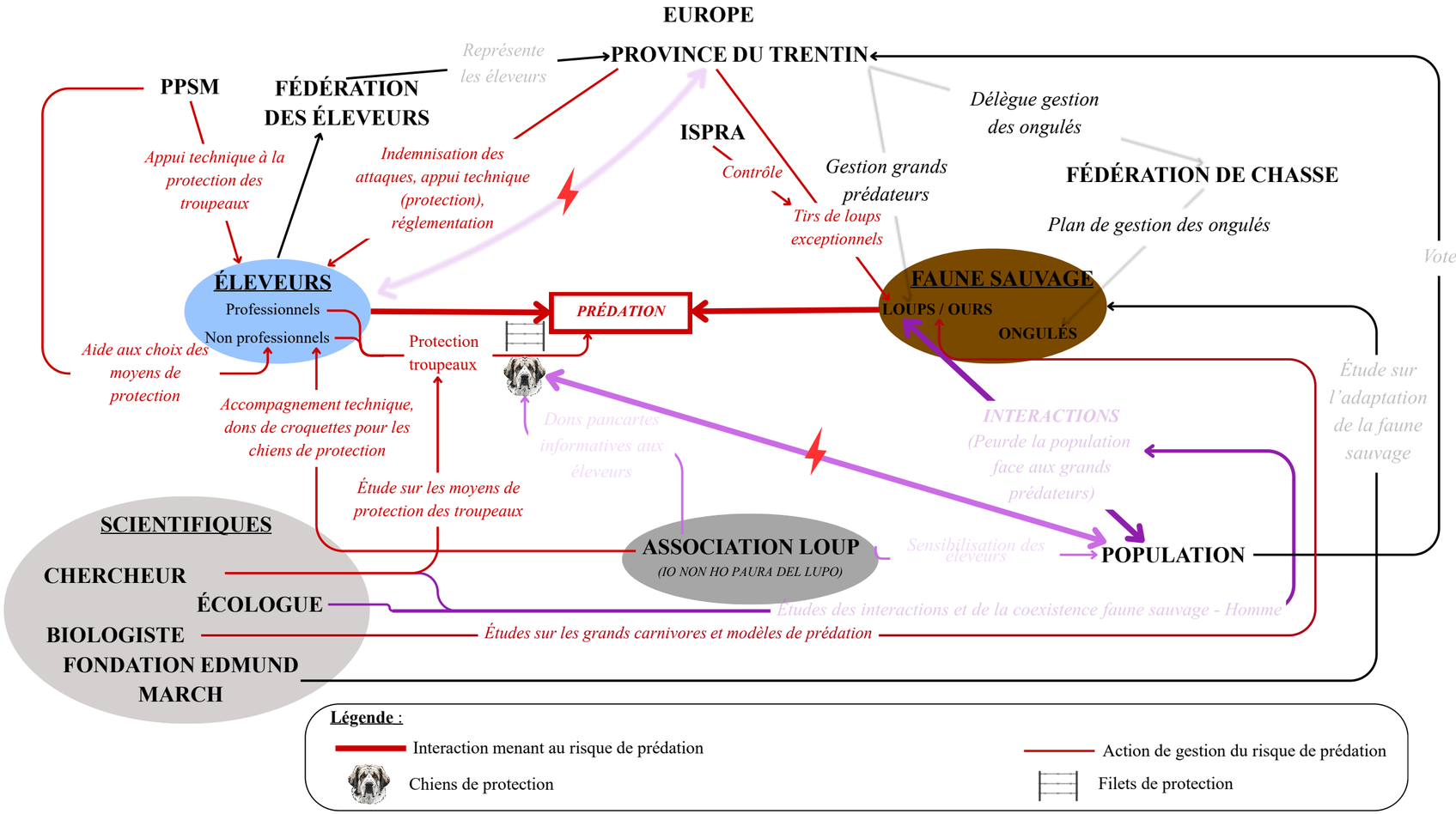
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GESTION :

Structuréeautourdela province du Trentin

Contrôle ciblé sur les grands prédateurset **appui technique** aux éleveurs

(Par le Parc naturel de Paneveggio-Pale di San Martino)



3) Parmi les acteurs qui interviennent dans la gestion de ces interactions, lesquels interviennent dans la **gestion des risques** et **comment** ?

Parc naturel de Paneveggio - Pale di San Martino (N=8): Gestion du risque de prédation et du risque social

RISQUE SOCIAL :

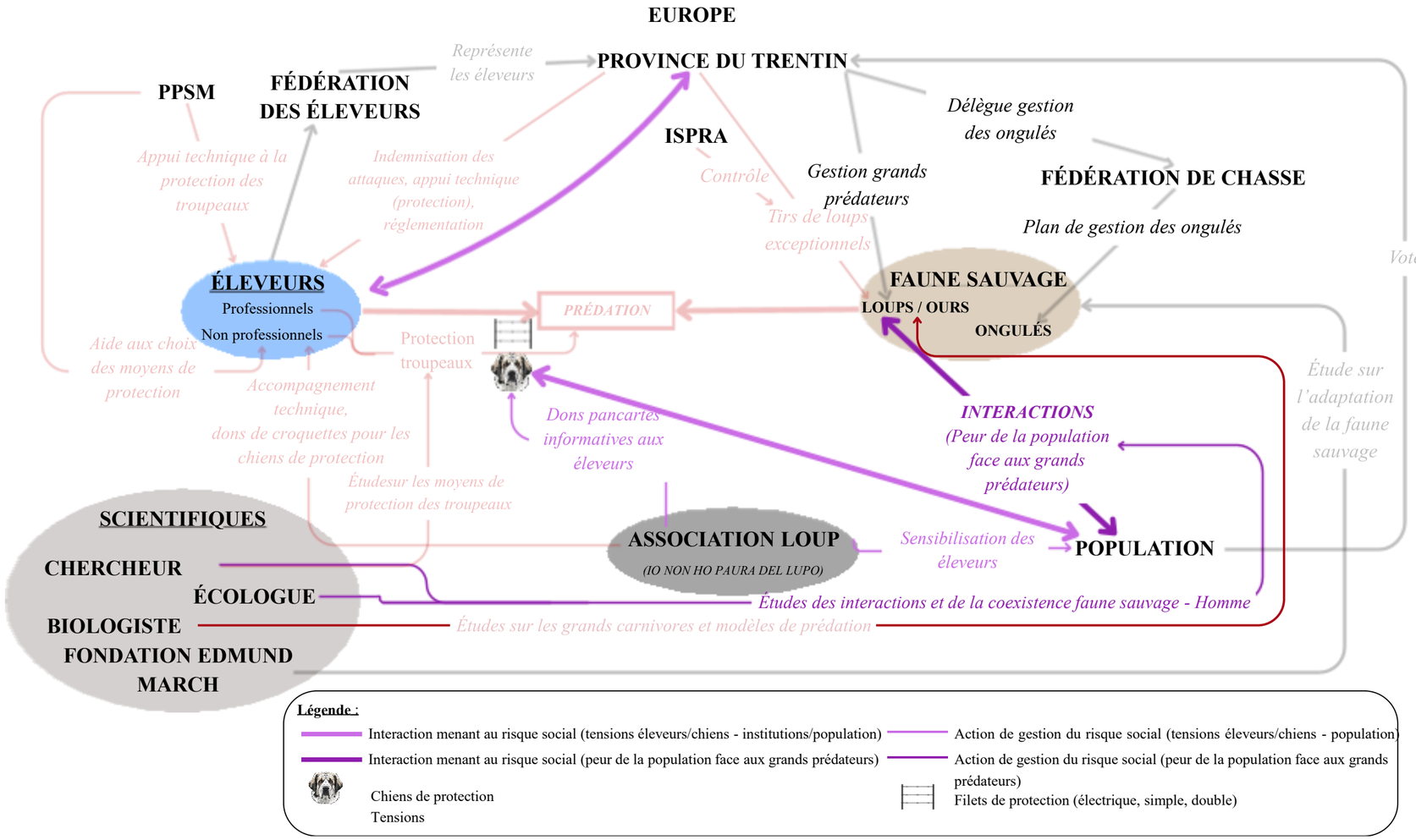
GESTION :

Communication et **sensibilisation** surlaprésence du loup

(Par les associationsdont l'association"Ionon ho paura del lupo")

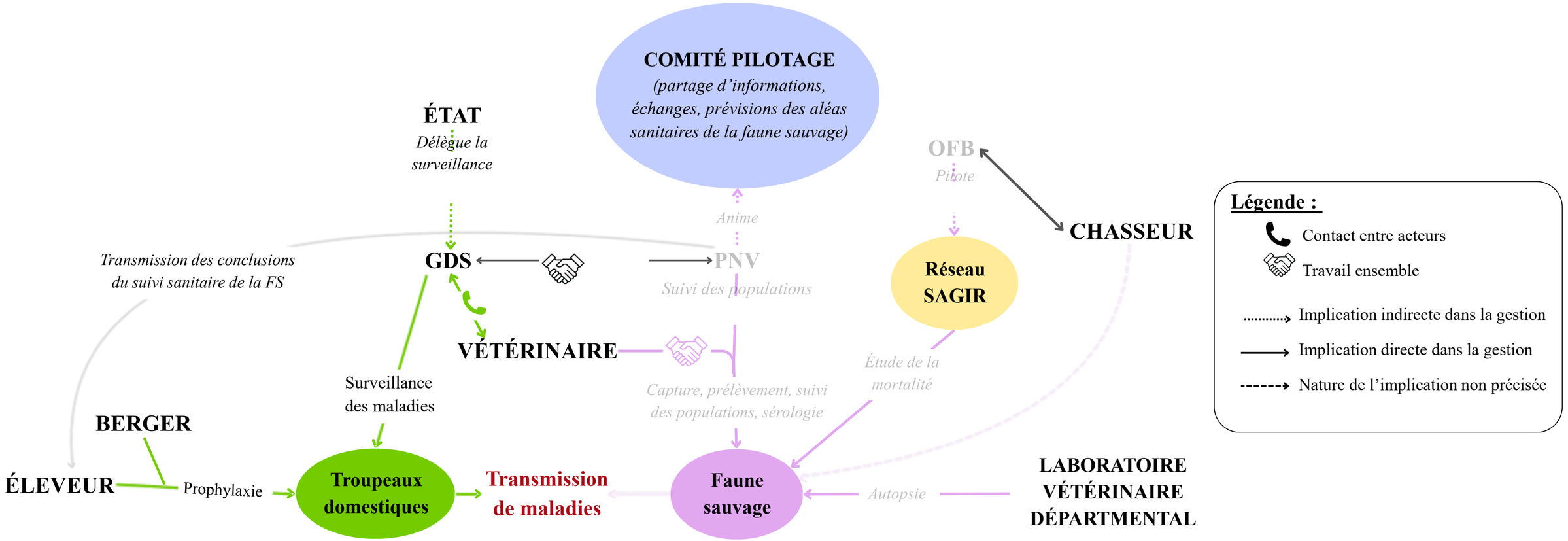
Recherches sur les grands carnivores et les méthodes de prévention

(Par les chercheurs et les instituts scientifiques)



3) Parmi les acteurs qui interviennent dans la gestion de ces interactions, lesquels interviennent dans la **gestion des risques** et **comment** ?

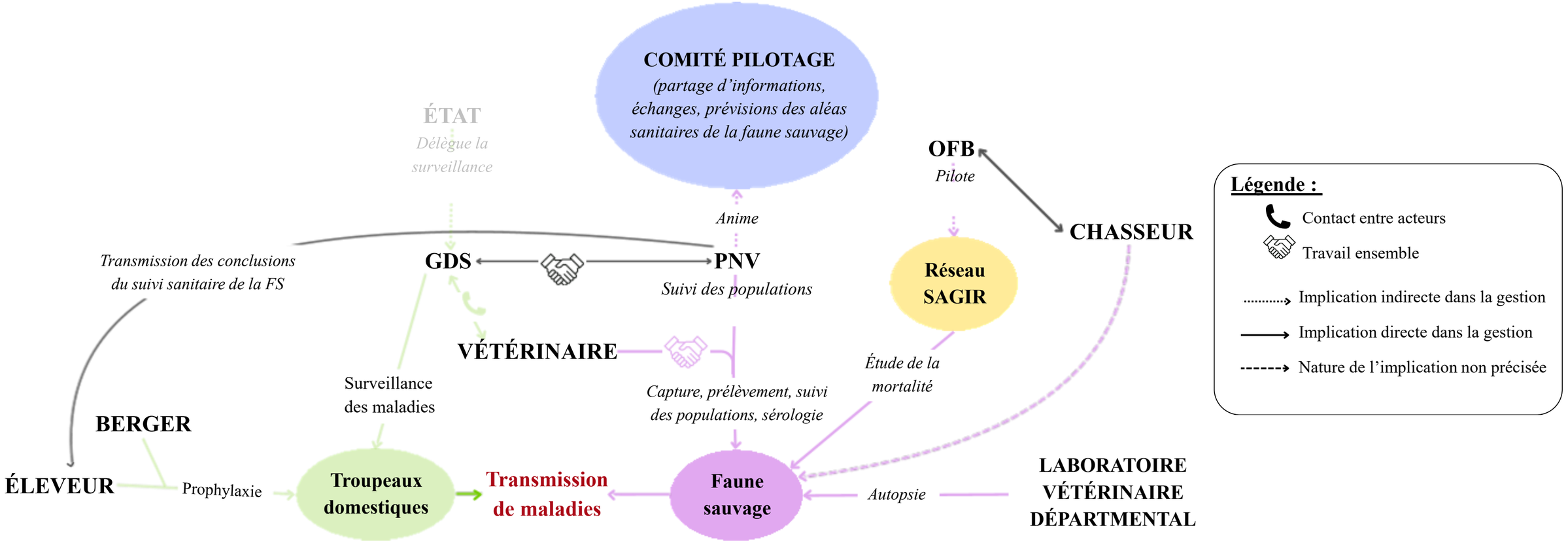
Parc national de la Vanoise (N=13) : Perception de la gestion du risque sanitaire



→ Gestion du risque sanitaire des troupeaux domestiques

3) Parmi les acteurs qui interviennent dans la gestion de ces interactions, lesquels interviennent dans la **gestion des risques** et **comment** ?

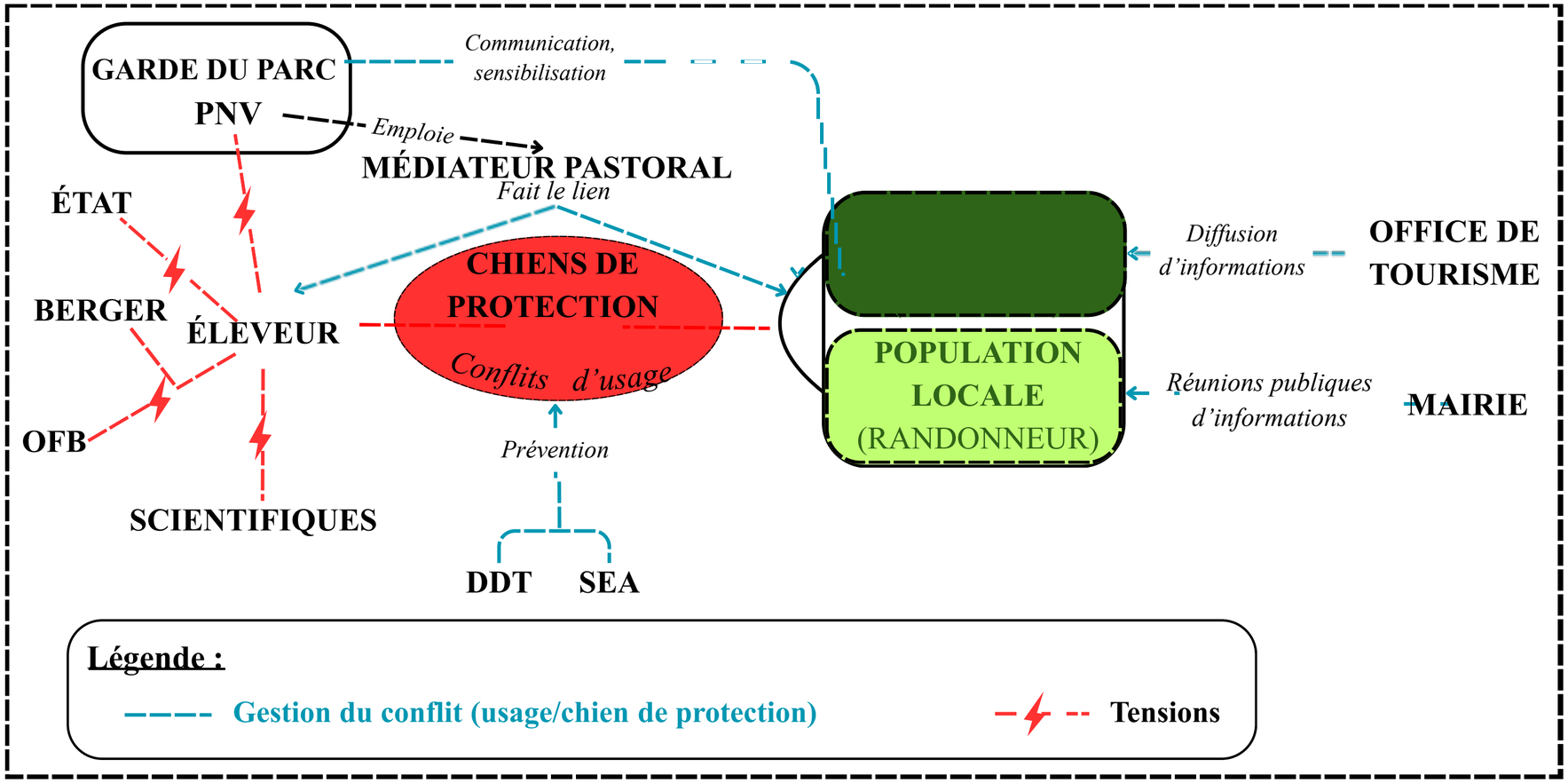
Parc national de la Vanoise (N=13) : Perception de la gestion du risque sanitaire



→ Gestion du risque sanitaire de la faune sauvage

3) Parmi les acteurs qui interviennent dans la gestion de ces interactions, lesquels interviennent dans la **gestion des risques** et **comment** ?

Parc national de la Vanoise (N=11) : Perception de la gestion du risque social



PROBLÈME MAJEUR :

Tensionsentre usagers dela montagne et chiens de protection citées par **10 personnes enquêtées**

GESTION :

Actions de **prévention**
(Par la DDT, la SEA)

+

Communication et/ou **sensibilisation**
(ParlePNV,les médiateurspastoraux, l'office du tourisme)

3) Parmi les acteurs qui interviennent dans la gestion de ces interactions, lesquels interviennent dans la **gestion des risques** et **comment** ?

Parc national de la Vanoise (N=12) : Perception de la gestion du risque environnemental

CHANGEMENT CLIMATIQUE :

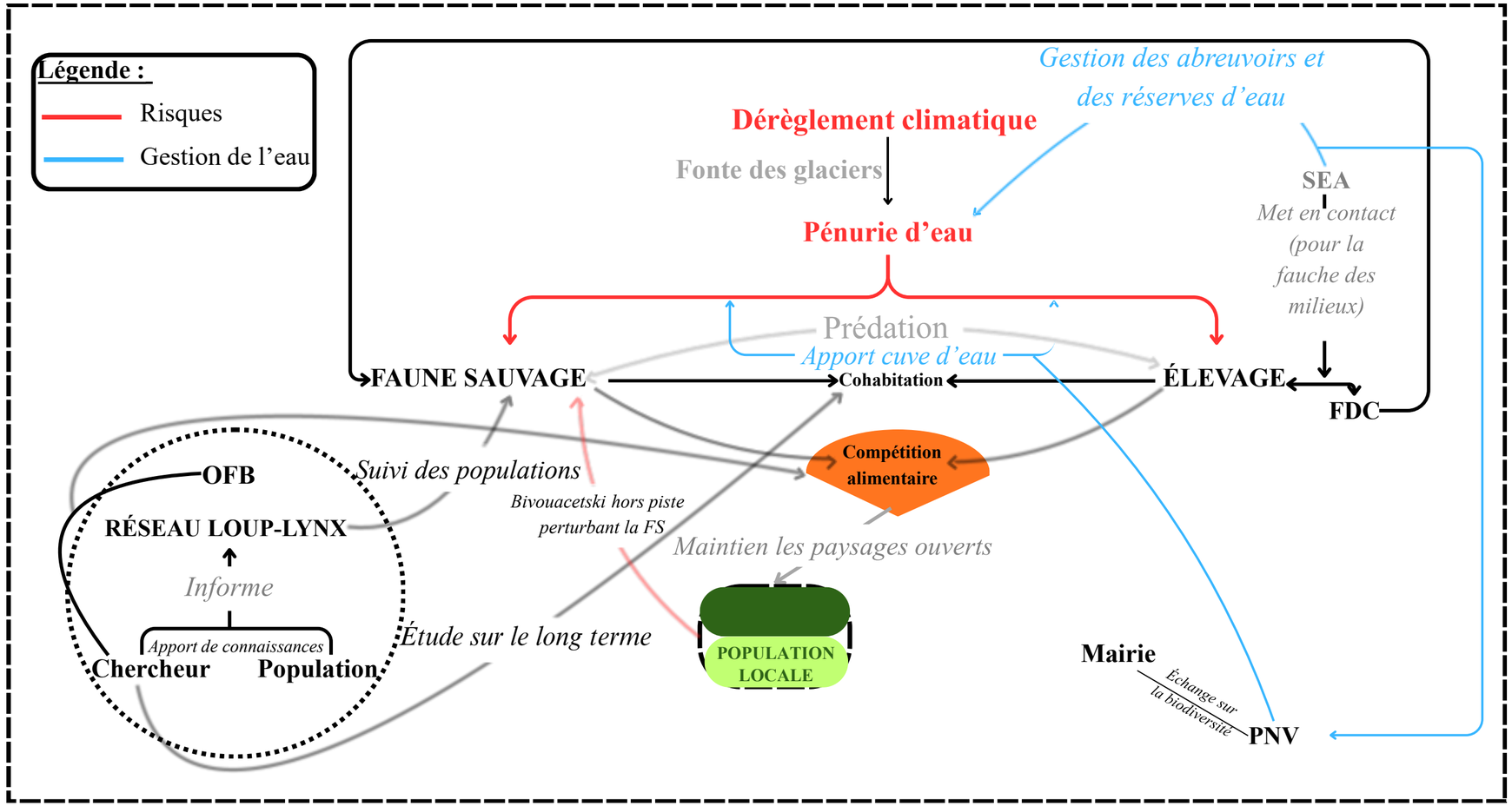
Fontedes glaciers

Pénurie d'eau

GESTION :

Conceptiond'**abreuvoirs** et **systèmes de stockage d'eau**

(Par la SEA et le PNV)



3) Parmi les acteurs qui interviennent dans la gestion de ces interactions, lesquels interviennent dans la **gestion des risques** et **comment** ?

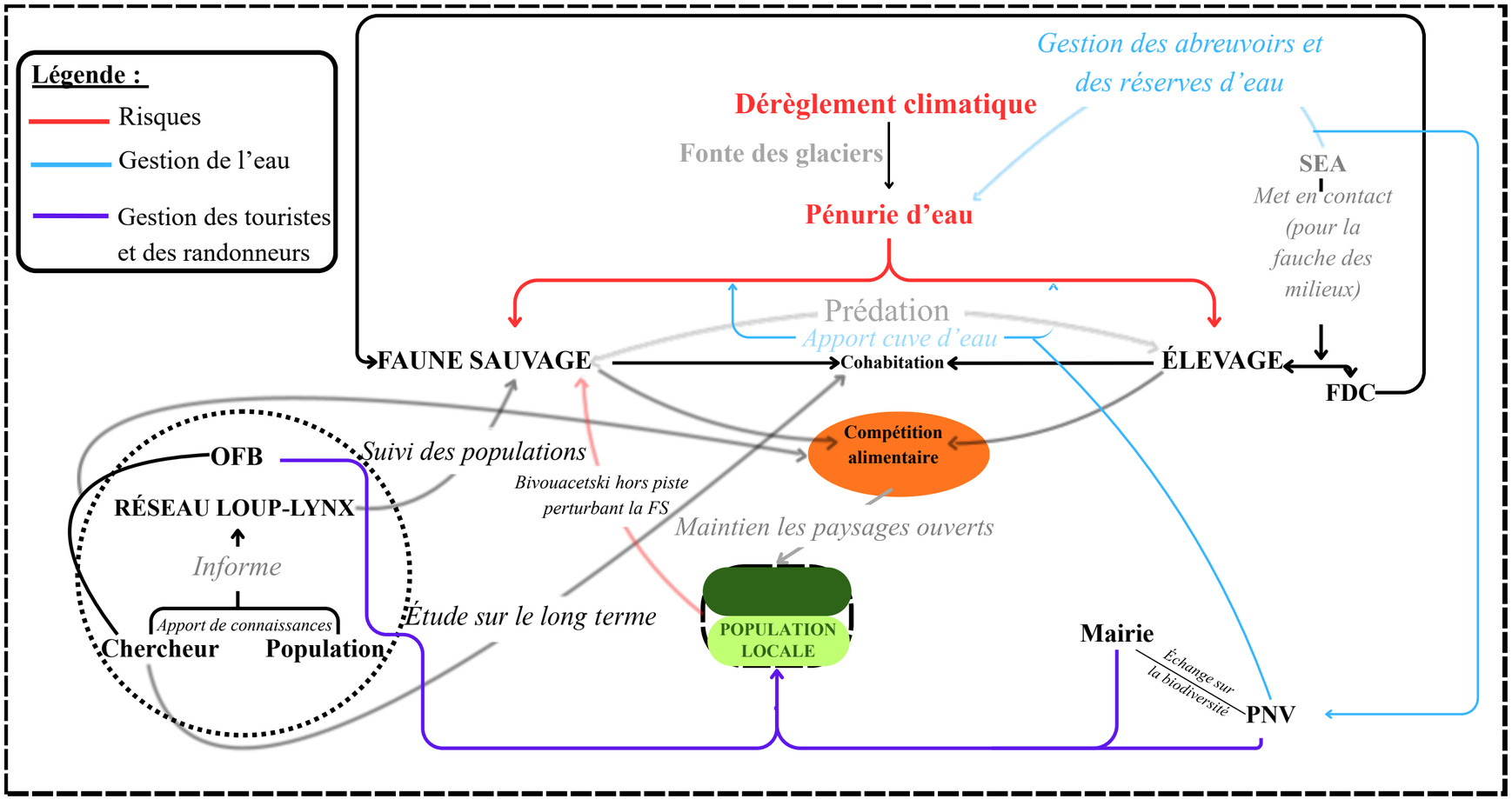
Parc national de la Vanoise (N=12) : Perception de la gestion du risque environnemental

TOURISME :

Activité économique indirectement liée au pastoralisme

GESTION :

Tourisme suivi parle PNV, l'OFBetles communes



3) Parmi les acteurs qui interviennent dans la gestion de ces interactions, lesquels interviennent dans la **gestion des risques** et **comment** ?

Parc national de la Vanoise (N=12) : Perception de la gestion du risque environnemental

COHABITATION :

Entre la faune sauvage et le pastoralisme

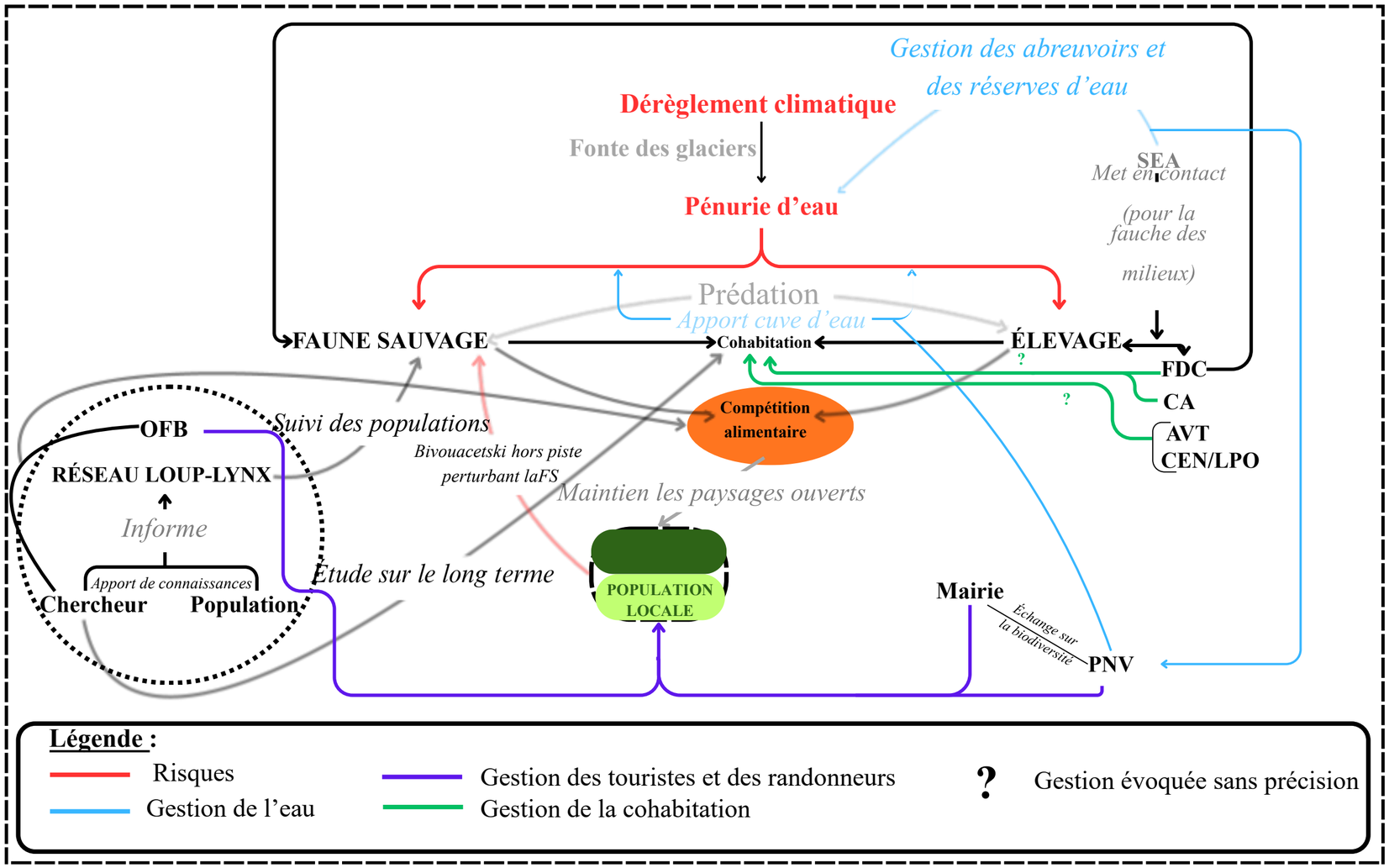
GESTION :

La Chambred'agriculture et la fédération de chasse travaillent sur la **cohabitation**

Sensibilisation sur la cohabitation
(Par la Chambre d'agriculture et la SEA)

Intervention indirecte dans la cohabitation
(Par la LPO et le CEN)

Travaux de recherche



3) Parmi les acteurs qui interviennent dans la gestion de ces interactions, lesquels interviennent dans la **gestion des risques** et **comment** ?

Parc national de la Vanoise (N=12) : Perception de la gestion du risque environnemental

PÂTURAGE

GESTION :

Zone de miseen défens ,limitation du chargement, plans de pâturage
(Par le PNV)

Miseenrelation deséleveurs et dela fédérationde chassepour la **ré-ouverture des milieux**
(Par la SEA)

Recherches sur les questions de **compétition alimentaire** et **de ressource** entre faune sauvage et animaux d'élevage
(Par l'OFB en collaboration avec les chercheurs)

