2nd Scientific Council of 3rd National Action Plan for E. mink


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GRIFS : Thomas RUYS

Plan national d'action pour le
Vison d'Europe

Agenda

Organisation of this online meeting

1. Future translocations of European Mink
   - Feedback about translocation experiments
   - Proposal for a French translocation strategy

2. Care protocol for European Mink in distress

Role of the scientific council (CS)

- Consultation on scientific topics
  - By meeting: face-to-face + online
  - By a collaborative platform
- Meetings as much as needed
- 8 permanent members:
  - M. Philippe BERNY (VetAgro Sup)
  - M. Sébastien DEVILLARD (University of Lyon)
  - Mme Christine FOURNIER (GREGE)
  - M. Tiit MARAN (Zoo of Tallinn + EEP coordinator)
  - M. Johan MICHAUX (University of Liège)
  - M. Madis PODRA (TRAGSATEC)
  - Mme Audrey SAVOURE-SOUBELET (SFEPM)
  - M. Julien STEINMETZ (OFB)
- Ad hoc experts → today: M. Guillaume ROMANO (Zoodyssée)

Agenda

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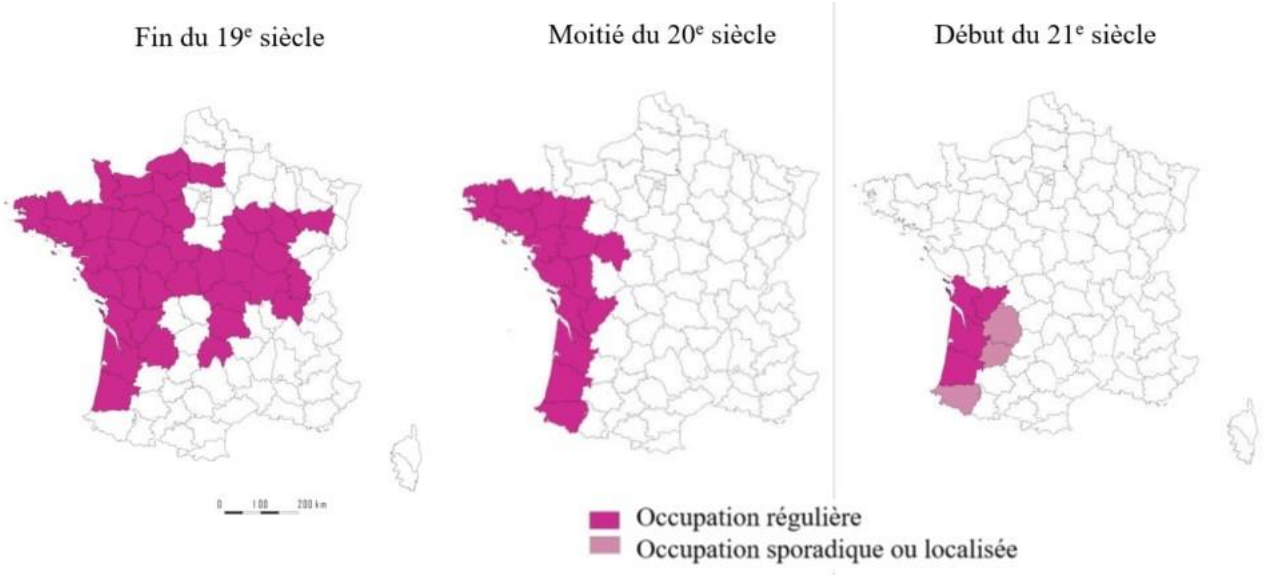
1. Future translocations of European Mink
   - **Feedback about translocation experiments**
   - Proposal for a French translocation strategy

2. Care protocol for European Mink in distress

Why translocations?

- Classified as Critically Endangered (world, Europe, France)
- Estimation in France: less than 250 individuals
- 33 births (10 litters) in Zoodyssée since 2019

→ **Translocations defined as a first priority in the 3rd National Action Plan**



Evolution of the European Mink range (De Bellefroid & Rosoux, 1998; Maizeret *et al*, 2002)

Different types of translocations

Reinforcement

- Intentional movement and release of an organism into an existing population of conspecifics

Reintroduction

- Intentional movement and release of an organism inside its indigenous range from which it has disapeared

Assisted colonisation

- Intentional movement and release of an organism outside its indigenous range to avoid extinction of populations of the focal species

Ecological replacement

- Intentional movement and release of an organism outside its indigenous range to perform a specific ecological function

Methodology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- Bibliographic synthesis of translocation experiments
  - General bibliography
  - European mink
  - Other carnivores: Black-footed ferret, Iberian lynx
  - French mammals translocations already done: Brown bear and common Hamster

- Questionnaire/interview/mails of experts (thanks!) who performed translocations:
  - European Mink: Estonia, Spain, Germany, Russia
  - Other species: USA (Black-footed ferret)


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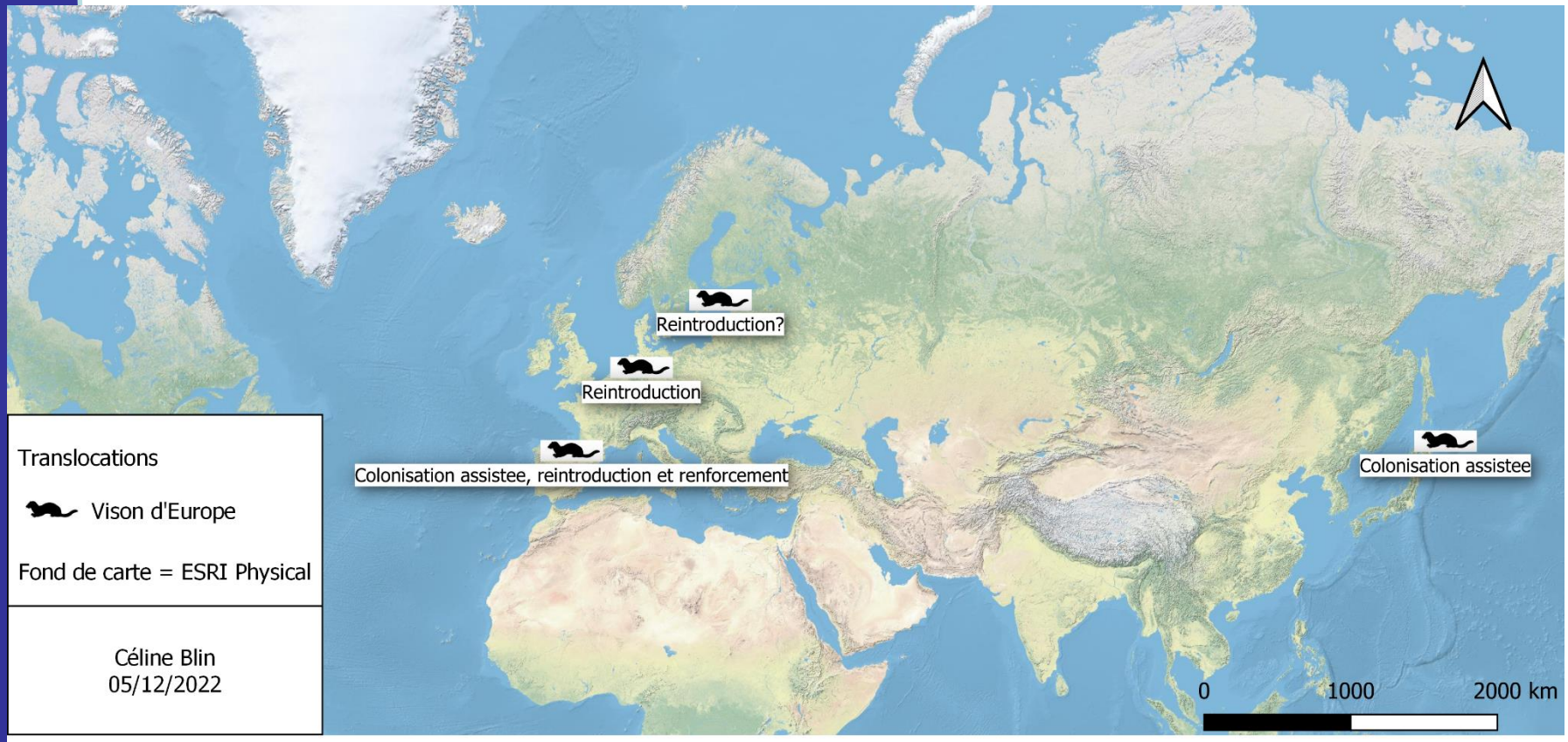
Translocations studied

- Studied translocations of European Mink



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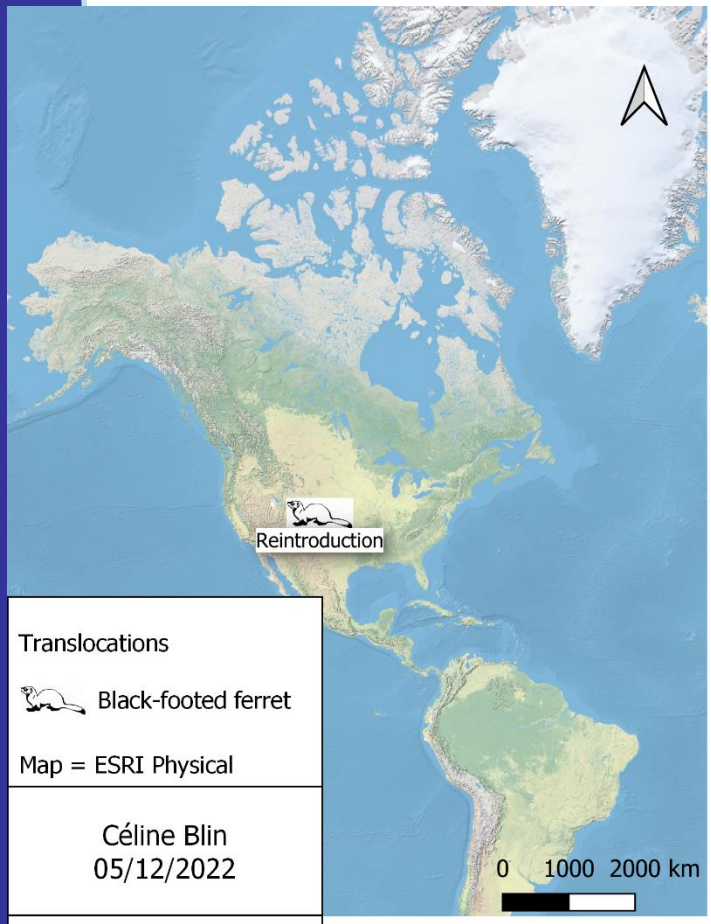
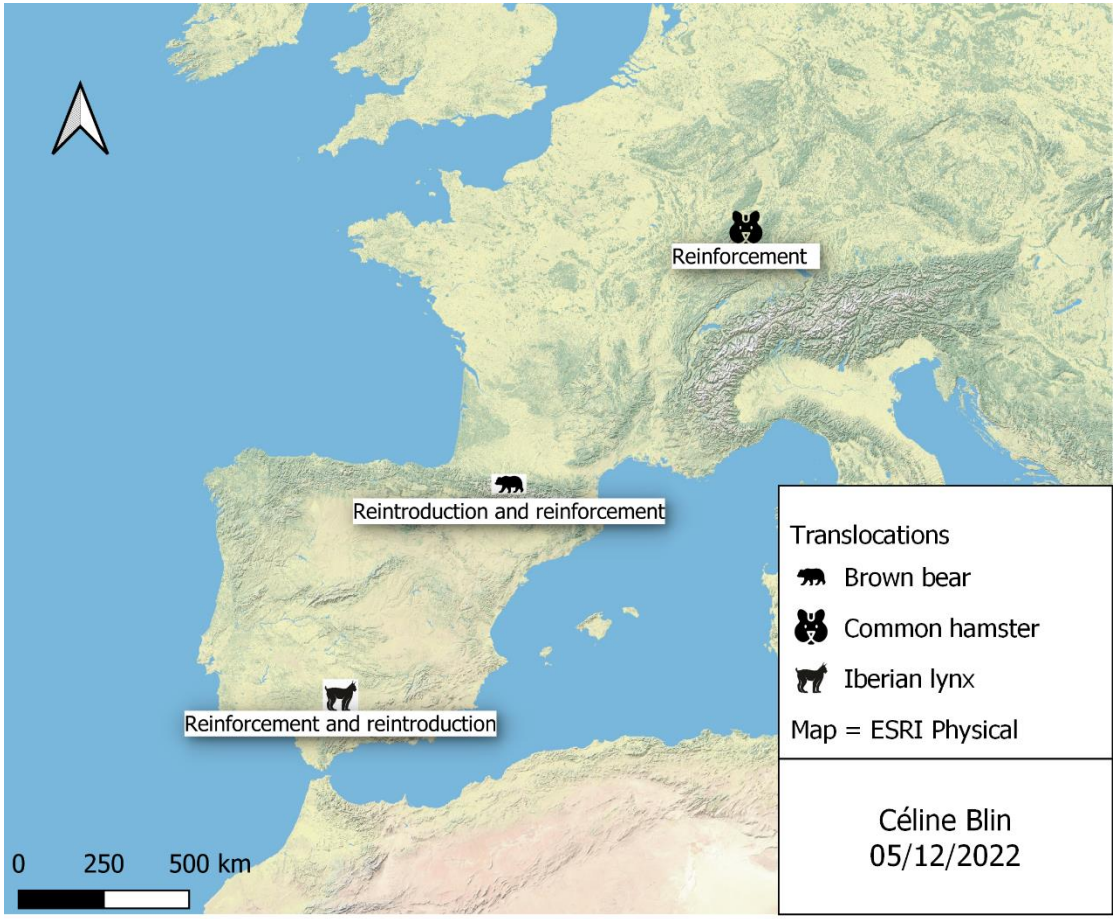
Translocations studied

- Studied translocations of other species





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Choice of the translocation site

Common criteria

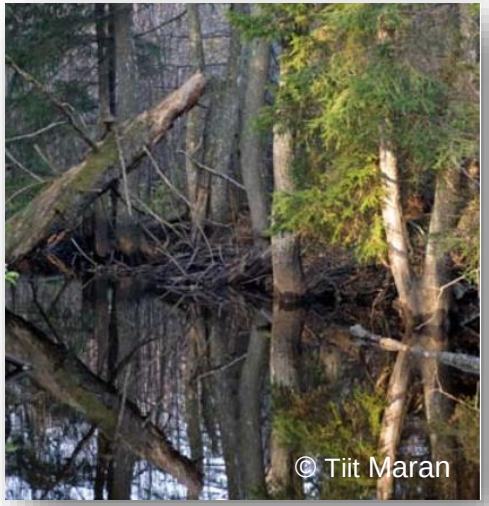
- Absence of American mink
- Suitable habitats
- High level of social acceptance
- Sufficient food resources

Salburua, Spain

Steinhuder Meer, Germany

Other local criteria

- Few predators
- Possibility to build enclosures
- Enough hiding places available
- Connectivity between populations
- Absence of diseases



Hiiumaa island, Estonia

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Actions implemented before translocation

Recommended

- Eradication of the American mink and/or monitoring of its colonization
- Habitat restoration and/or improvement (artificial shelters)

Footprint raft for detection of American mink

Trap for American mink

Artificial shelters

Not recommended

- Predator control

Preparation of the released minks

Use of acclimatisation enclosures (soft release)

- Near the breeding centre or in the translocation site
- Natural composition, ponds, nesting boxes
- Distribution of live prey (fish, crayfish, rodents, etc.)
- Cameras to monitor behaviour

Acclimatisation enclosure in the site, Estonia

Transportable enclosure, Germany

Pond in the enclosure, Spain

Badger robot to afraid Black footed ferret

Not recommended

- Predator training: ineffective

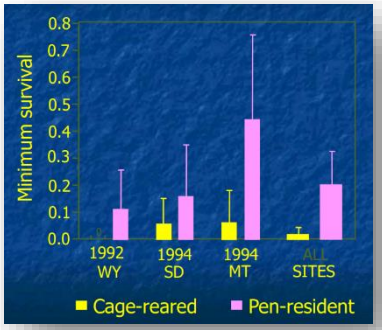
Releases

Choice of the released minks

- Number and sex-ratio depend on the breeding availability
- Contributing to reproduction, usually young individuals
- No aggressive males
- Wild behaviour = predation, flight from humans, territorial with conspecifics

Release methods

- Late summer, early autumn
- Better survival rate with soft release



Survival rate of black-footed ferrets according to release modalities (Livieri, 2017)

Transport cage, Estonia

Transport

- In nesting boxes with water at will
- Regulated temperature (20°C)
- No unnecessary handling and no facing each other

Monitoring of released individuals

Type of monitoring

- Indirect (footprints, hairs samples)
- Telemetry (collar, intra-abdominal transmitter)
- Trap cage
- Camera trap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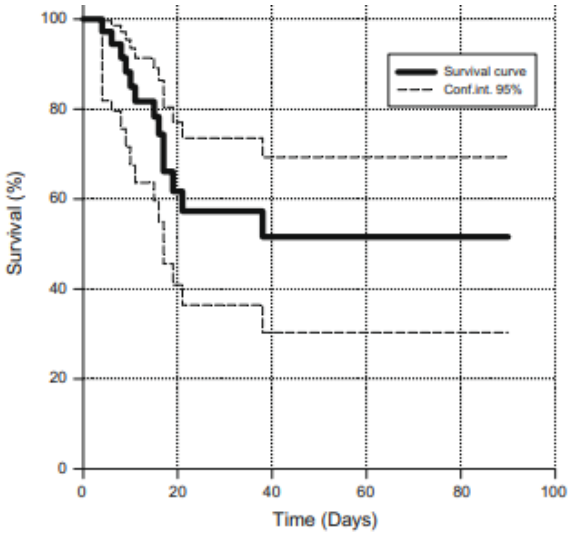

Survival rate of the released E. mink (Maran et al., 2009)


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Radio-collar, Spain

Monitoring results

- High mortality rate in the 6 first weeks
  ➔ Predation and collisions
- Long-distance travel before establishing a home range

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Translocations acceptance management

Communication

- Evaluation of local people acceptability (questionnaire)
- Participation in feeding in acclimatisation enclosures
- Specific events to raise awareness
- Partnership with zoos

European mink, Madrid Zoo

Mink days, Tallin Zoo

Conflict management

- Attacks on poultry farms ➔ Financial compensation measures
- Fear of new restrictions in the area of translocation ➔ Targeted communication

Projects management and results

Project management

- Small teams with temporary seasonal reinforcement
- Variable budget and funding sources, more guarantees with LIFE programs
- Long-term projects (> 10 years)

Translocations results

- Reproduction in nature observed for all projects

- Viable population in Hiiumaa Island (Estonia)
- Global population in Spain: ~500 individuals
- Unknown for Russia
- Still considered extinct in Germany even though there are individuals in the wild

Proof of reproduction in the wild, Steinhuder Meer (Germany, 2015)

Key results

Steps	Results
Choice of the translocation site	Requirements: No A. mink, suitable habitats, high level of public acceptability, enough food
Actions made before translocation	Eradicate A. mink, restore/improve habitats, no predators control
Preparation of the individuals	Soft release with acclimatisation enclosures (natural composition, live preys), no predator training
Choice of the individuals	Number and sex-ratio depend on the availability in breeding centre. Choice of the individuals with the wildest behaviour and not aggressive
Monitoring	Different methods: telemetry (collar or implants), trap cage, camera trap, footprint High mortality rate and wide movements in the two first months
Translocation acceptance management	Evaluation of local people acceptability, participation in feeding, awareness raising in zoos, specific events, targeted communication
Project management	Small teams with temporary seasonal reinforcement, variable budget and funding sources, more guarantees with LIFE programs, long-term projects

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   - **Proposal for a French translocation strategy**

2. Care protocol for European Mink in distress

Translocation type

Assisted colonisation :

Advantages	Drawbacks
- Away from threats - No impact on the existing population	- Not recommended by IUCN - Impacts on ecosystems difficult to predict - Outside the National Action Plan range - Less well-informed public

→ Option excluded

Reintroduction :

- Away from threats - No impact on the existing population - In the National Action Plan range	- Requires massive releases to reach a viable population

→ **1st stage**

Reinforcement :

- In the National Action Plan range - Can bring immediate genetic diversity	- Potential negative impacts on the existing population (destabilisation, intra-specific competition) - Insufficient knowledge about the current population

→ **2nd stage**

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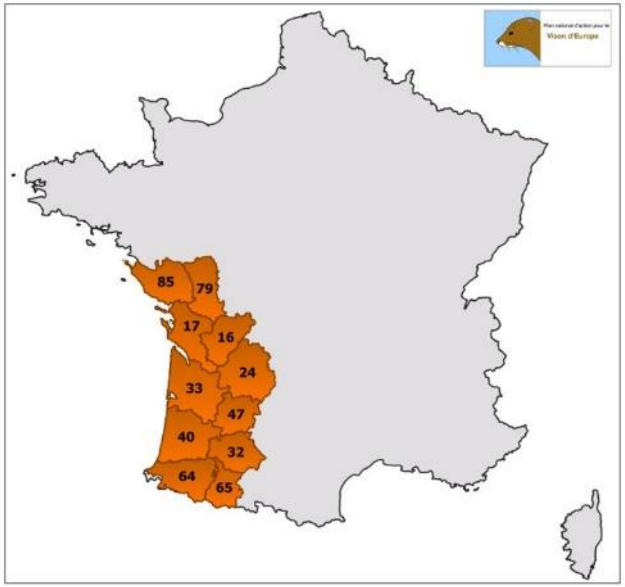
Futures translocations in France

Long term project (>10 years) in the National Action Plan (legislation, knowledge, “return on investment”)**:**

- **1st stage = reintroductions**
  → Re-create viable population nuclei
- **2nd stage = reinforcements**
  → To strengthen current known cores and link them to new cores created

→ **Staying the course but remaining adaptable**



Scope of the 3rd NAP
(DREAL *et al*, 2021)

To do:
- Improved knowledge of the distribution of the A. Mink
- Improved knowledge of the nuclei of E.Mink

→ Next Scientific Council = save in your calendar March the 2nd, 2023

Agenda

Time to discuss:
What is your opinion about this French translocation strategy?

→ Next step: validation of the French translocation strategy by the National Council for Protection Nature (March the 24th, 2023)

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2. **Care protocol for European Mink in distress**

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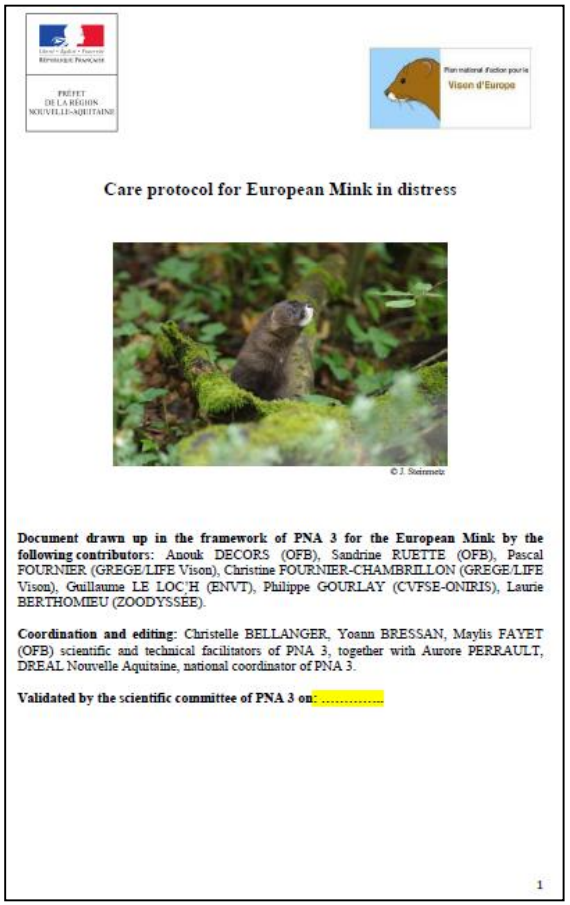
Care protocol for European Mink in distress

3rd National Action Plan:
Sub-action 1.3.2: Develop and implement a protocol for the management of individuals in distress

→ Priority 1
→ Schedule : to be implemented from 2022

Define the **caring methods** for individuals in **distress** found by chance in the wild or during monitoring/conservation actions



PRÉFET DE LA RÉGION NOUVELLE-AQUITAINE

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Care protocol for European Mink in distress

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Document drawn up in the framework of PNA 3 for the European Mink by the following contributors: Anouk DECORS (OFB), Sandrine RUETTE (OFB), Pascal FOURNIER (GREGE/LIFE Vison), Christine FOURNIER-CHAMBRILLON (GREGE/LIFE Vison), Guillaume LE LOC'H (ENVT), Philippe GOURLAY (CVFSE-ONIRIS), Laurie BERTHOMIEU (ZOODYSSEE).

Coordination and editing: Christelle BELLANGER, Yoann BRESSAN, Maylis FAYET (OFB) scientific and technical facilitators of PNA 3, together with Aurore PERRAULT, DREAL Nouvelle Aquitaine, national coordinator of PNA 3.

Validated by the scientific committee of PNA 3 on: .....

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Care protocol for European Mink in distress

Work group of 7 veterinarians specialists of wildlife:

- Anouk Decors, Sandrine Ruette – OFB
- Christine Fournier-Chambrillon, Pascal Fournier – GREGE
- Guillaume Le Loc'h – ENVT
- Laurie Berthomieu – Zoodyssée
- Philippe Gourlay - ONIRIS

5 meetings between 2019 and 2022
+
Email exchanges

Discussion based on **technical data** collected on wild and captive individuals

Visits of the **2 wildlife health centres** of veterinary schools of Nantes (ENVT) and Toulouse (ONIRIS)


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Care protocol for European Mink in distress

Main points discussed and conclusions:

- Definition of the distress and protocol objectives

Distress = an individual whose survival in the wild is assessed as being threatened due to its inability to move or flee, or to satisfy its own needs in its natural environment. This inability could result in the short-term death of the animal.

1. Establish a precise diagnosis **explaining the state of health**
    - To detect any health problem
    - To improve general knowledge (clinical signs and pathologies)

2. **Every individual counts** → enable **medical care aimed at releasing** each individual (as soon as possible, under the best possible conditions, close to the place where it was captured)

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Care protocol for European Mink in distress

Main points discussed and conclusions:

- Definition of the distress and protocol objectives
- Setting up a Diagnosis Unit
  - → to make shared decisions
  - → follow protocol's implementation

Sandrine RUETTE – OFB

Anouk DECORS – OFB

Christine FOURNIER-CHAMBRILLON – GREGE

Pascal FOURNIER – GREGE

Guillaume LE LOC'H – ENVT
(Replacement: Philippe GOURLAY – ONIRIS)

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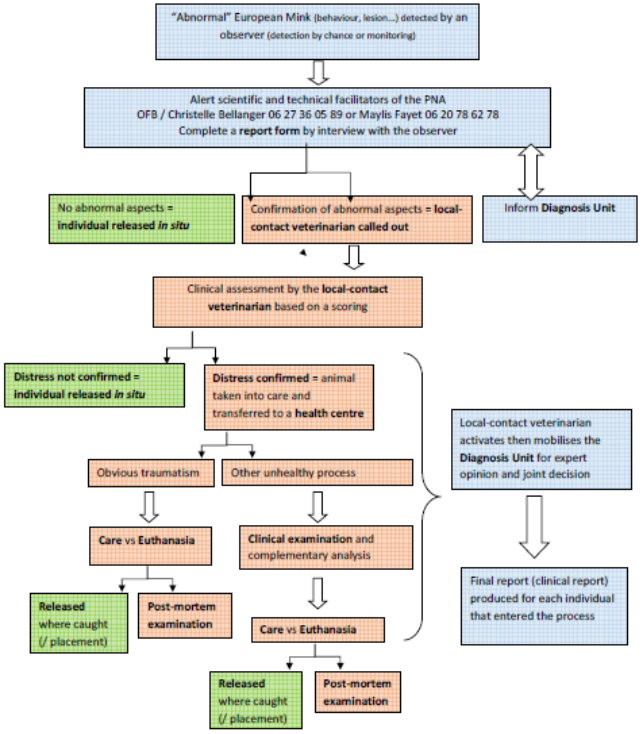
Care protocol for European Mink in distress

Main points discussed and conclusions:

- Definition of the distress and protocol objectives
- Setting up a Diagnosis Unit
- Definition of the management process: decision flowchart, clinical assessment grid, report form for individuals in distress



Local-contact veterinarian: (Name, First name, Tel)			Stick identification label here
Date & time of clinical assessment:			Age/Sex
Parameter	**Description**	**Note**	**Score**
Context	Animal caught in a cage, informed before midday	0	
	Accidental capture, informed late	3	
	Road casualty or hand capture	5	
Behavioural disorder- vigilance	Normal reaction: alert or wary or defiant or crying or sleeping profoundly (rolled in a ball) or building a nest	0	
	Slight changes: trembling and/or panic and/or has not made a nest	2	
	Clear changes: remains rolled in a ball or very agitate or very unalert	4	
	Animal immobile or pre-comatose even with stimulation	5	
Cutaneous disorders: state of fur, paw pads, mouth	Fur lustrous, in a good state	0	
	Fur dull and/or ectoparasites ++ and/or dirty	2	
	Significant hair loss and/or superficial injury(ies) around mouth and/or bloody paw pads and/or ectoparasites +++	3	
	Major clearly visible injury or major lesion (severity/distribution ++/acute or chronic trend)	5	
Respiratory disorders	Breathing normal	0	
	Slight modifications in frequency	1	
	Frequency reduced + abdominal respiration (Breathing difficult)	3	
	Pronounced abdominal respiration (Breathing very difficult) and/or lolling tongue and/or cough and/or runny nose and/or drooling	5	
Ocular disorders	Eyes normal, open	0	
	Half-closed	3	
	Pronounced weeping, eyes stuck together, glazed or white	5	
Digestive and/or locomotive and/or neurological disorders	No abnormal signs	0	
	Faeces of dubious appearance (very black, very sticky)	1	
	Faeces liquid, abdominal constriction	4	
	Clearly visible neurological signs (dizziness, loss of balance, convulsions), articular oedema and limping, broken limb, presence of blood in faeces (oxygenated water test), drooling, vomiting, diarrhoea with soiled fur	5	
WEIGHT*	Normal (≥Q1 for the period) whether first capture or recapture	0	
Sex / Females / Males / Period / Pre-breed. / Post-breed. / Pre-breed. / Post-breed.	First capture with weight between Q1 and Q1-10% (for males) Or recapture with weight loss ≤ 10% (for males and females)	1	
Q1[1] 480 430 775 720	First capture with weight between Q1-10% and Q1-15% (for males) Or recapture with weight loss between 10 and 15 % (for males and females)	2	
Q1 - 10% 432 387 697,5 648	First capture with weight between Q1-15% and Q1-20% (for pre-breeding males) Or recapture with weight loss between 15 and 20 % (for males and females)	3	
Q1 - 15 % 408 365,5 658,75 612	Recapture with weight loss ≥ 20 % (and rate of weight loss)	4	
Q1 - 20% 384 344 620 576 Q1 - 25% 360 322,5 581 540 - Pre-breeding: January-May - Post-breeding : June-December	First capture with weight less than 430 g for females and 620 g for males	5	
Adjustment	If more than one score = 4, add one point per box		
TOTAL			

Any score = à 5	**Automatic taking into care and transportation to a health centre**
Score between 0 and 10	**Release *in situ***
Score between 10 and 15	**Decision to be taken together with the diagnosis unit**
Score above à 15	**Taking into care and transportation to a health centre**

* FOURNIER-CHAMBRILLON, 2020. Protocole de prise en charge d'un Vison d'Europe en détresse. Analyses de données issues de Visons d'Europe sauvages en vue de la définition d'un poids critique chez le Vison d'Europe. 10p (14/10/2020 version)

[1] Q1: minimal weight observed in 75% of weighed individuals for each age and sex category (from Fournier et al. 2019).

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Care protocol for European Mink in distress

Main points discussed and conclusions:

- Definition of the distress and protocol objectives
- Setting up a Diagnosis Unit
- Definition of the management process
- Presentation and role of each process participant
- Presentation of the 2 selected health centres

Scientific and technical facilitators

Diagnosis Unit

Local-contact veterinarians


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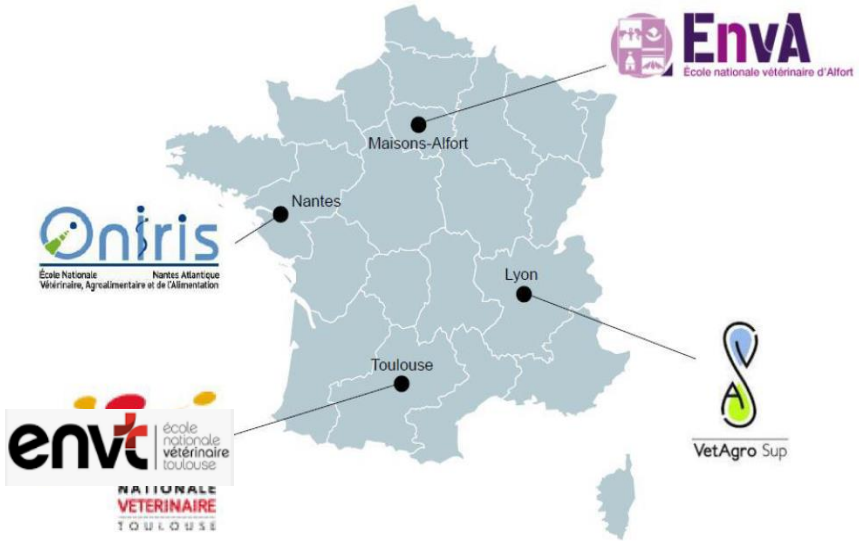
Health centres = ONIRIS & ENVT



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Care protocol for European Mink in distress

Main points discussed and conclusions:

- Definition of the distress and protocol objectives
- Setting up a Diagnosis Unit
- Definition of the management process
- Presentation and role of each process participant
- Presentation of the 2 “authorised” health centres
- Compilation of knowledge acquired through protocol’s implementation

In case of death: autopsy → clinical reports
+ annual report of protocol’s implementation to improve it
+ surveillance of eventual epidemiological pathologies

Agenda

Your opinion is more precisely awaited on:

- Definition of an individuals in distress
- Protocol objectives
- Management process and its feasibility
- Clinical assessment grid

Dematerialised discussions and approval

➔ 2 months period, until **February the 15th**

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Thanks for your help!

Thanks to all partners!

Hope to see you soon in the wild