

Care protocol for European Mink in distress



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List of abbreviations

DREAL: Direction régionale de l'environnement, de l'aménagement et du logement

ENVT: École nationale vétérinaire de Toulouse

GREGE: Groupe de recherche et d'étude pour la gestion de l'environnement

OFB: Office français de la biodiversité

ONCFS: Office national de la chasse et de la faune sauvage

ONIRIS: École nationale vétérinaire, agroalimentaire et de l'alimentation de Nantes-Atlantique

PNA: Plan national d'action

SAGIR network: surveillance network for infectious diseases of terrestrial wild birds and mammals

SNGTV: Société nationale des groupements techniques vétérinaires

IUCN: International union for conservation of nature

Introduction

The European Mink, a small semi-aquatic mustelid restricted to wetlands, is one of Europe's most threatened carnivorous mammals. It has been categorised as "critically endangered" in the worldwide IUCN Red List since 2011 and in the French list since 2017. This is the ultimate category level before the species is considered as "extinct in the wild". The wild population of European Mink in France is estimated to be fewer than 250 individuals.

Already responsible for the scientific and technical facilitation of an intermediate PNA since 2015, the ONCFS (since then incorporated into the OFB) was asked by the DREAL of Nouvelle-Aquitaine in autumn 2018 to draw up a 3rd PNA for the species, and then to facilitate it since 2021.

In this framework, two governing bodies, the steering committee and scientific committee, were set up and required to validate the actions of the 3rd PNA to be implemented. These bodies agreed to implement an emergency procedure aimed at defining the caring methods for any European Mink individuals in distress found either by chance in the wild or during monitoring or conservation actions in favour of the species (European Mink surveys, American Mink control).

The aim of this document is to define the principles and actions to be set up in order to manage cases of European Mink in distress. It was drawn up with the help of a group of specialist veterinarians, who met on various occasions.

This document is deliberately short and concise so as to be rapidly consultable in the event of an emergency situation.

I - Definition of a European Mink in distress and protocol objectives

For a small population of European Mink, such as the French one, management of individual cases has been shown to be very important for maintaining the species and enhancing our knowledge.

In order to know how to act in such circumstances, it is necessary to define precisely what is meant by an "individual in distress". The objectives of any decision to take these individuals into care must also be agreed, so as to construct a clear and shareable decision tree.

"A European Mink in distress is 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, without human intervention, result in the short-term death of the animal."

This state of distress can have various origins (traumatic, pathological, toxicological...) and be indicated by various clinical signs or symptoms¹.

Various health studies have been carried out in France on the European Mink and other sympatric mustelids, particularly during the 1st PNA, to assess the pathogens "likely to contribute to the decline of the species". Serological monitoring has confirmed the circulation of major pathogens within the population: Canine Distemper Virus (highly mortal

¹ In the case of discovery of an isolated and non-autonomous young kit, the application of the criteria of the score grid will lead to its management.

for the species, played a major role in the decline of a population nucleus in Navarre), various *Leptospira* serogroups, Aleutian Disease Virus. Autopsies and eco-toxicological analyses carried out on specimens that were found dead have revealed the major causes of anthropogenic mortality (road casualties, dog bites, secondary intoxication by anticoagulant rodenticides ...), but the precise impact of these various threats on populations has not yet been determined and the (re)emergence of pathologies needs to be taken into consideration. The early detection of a health problem in a population nucleus is thus a real issue for the conservation of the species. The surveillance of potential individuals in distress is therefore essential.

This type of management protocol for individuals in distress does not exist in the other European countries that harbour European mink populations in the wild.

There is just one document recapitulating care advice for captive-bred individuals in the framework of the European ex-situ conservation programme for the species (*Captive Breeding and Husbandry protocol*²).

The devising of this procedure for the European Mink is therefore completely new and cannot yet benefit from any feedback about experience elsewhere. Given the lack of knowledge about the various situations that may be encountered, this document is intended to be corrected or amended as events unfold.

The management procedure described below aims to satisfy two major objectives, prioritised as follows:

1/ Establish as precise a diagnosis as possible explaining the state of health, considered as worrying, of the European Mink taken into care, in order particularly to detect any health problem for the species and improve general knowledge about the species' clinical signs and pathologies.

2/ Given the low numbers in the wild, every individual counts. The procedure must therefore enable medical care aimed at releasing each individual as soon as possible, under the best possible conditions and as close as possible to the place where it was captured.

Throughout this process, the central, predominant theme will be to avoid all unnecessary suffering for the animal and constantly strive for its well-being. This protocol is designed to be the least interventionist possible.

This protocol will need to be presented to all the partners involved in the PNA, in order to ensure that it functions correctly and is well understood.

In parallel, the surveillance of diseases via sentinel species will be considered (collaboration with the SAGIR network) and also the usage of the *Épifaune* database (creation of a "Mink" context providing defined access rights to all relevant information).

II – Setting up a Diagnosis Unit

The finding of a European Mink in distress involves a rapid transfer of information between the various persons concerned in order rapidly to establish a diagnosis and prognosis that

² Foundation LUTREOLA, 2006. European Mink, *Mustela lutreola* Linnaeus 1761, Captive Breeding and Husbandry Protocol. 74p.

can be used to take a decision concerning the individual's future. That is why it is necessary to set up a Diagnosis Unit whose members work quickly together.

When a European Mink in distress is found, DREAL Nouvelle-Aquitaine will contact the scientific and technical facilitator of the PNA who will quickly get in touch with the Diagnosis Unit, made up of the veterinarians named below (contact details in *Annexe 1*):

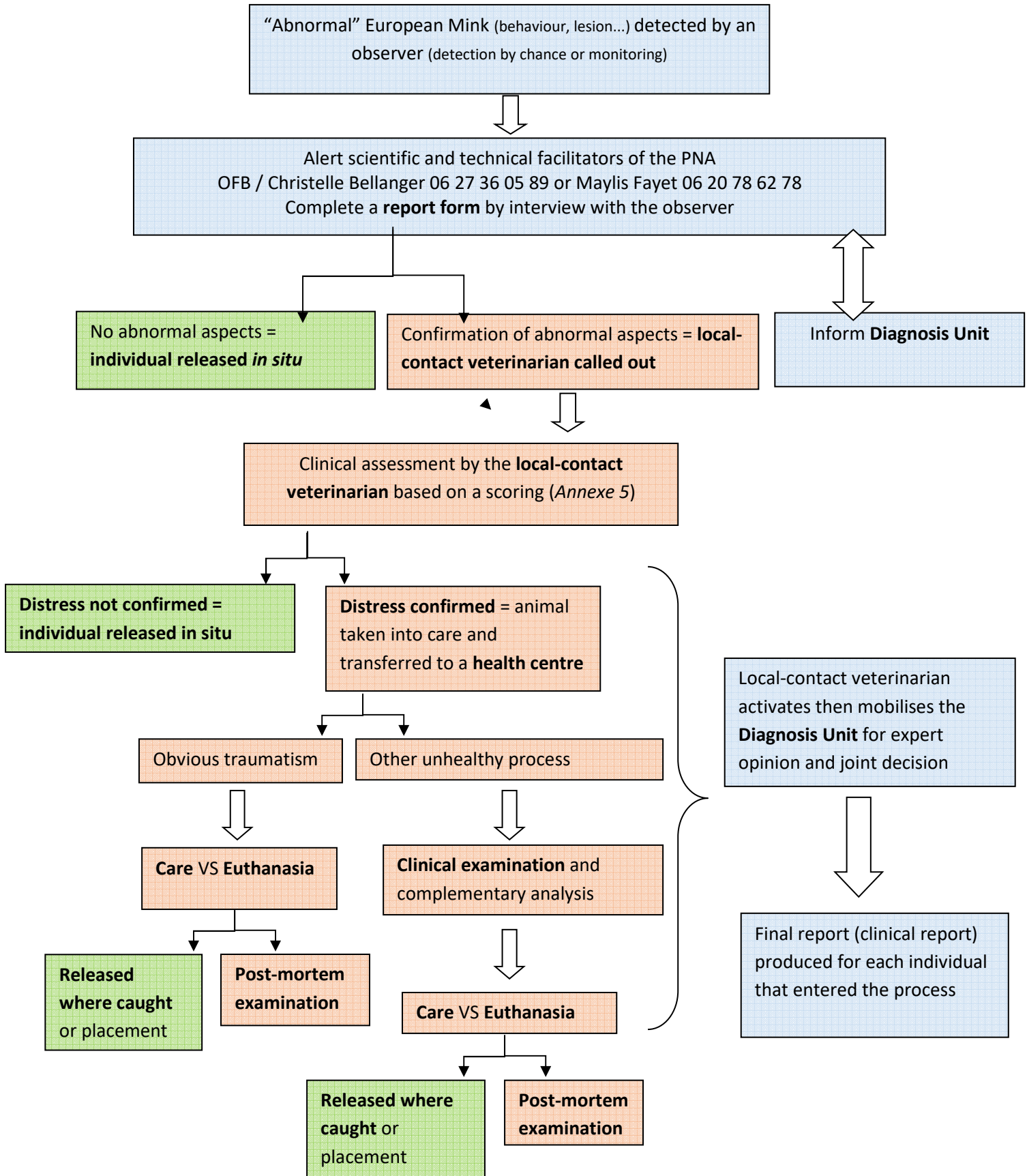
- Sandrine RUETTE - OFB
- Anouk DECORS - OFB
- Christine FOURNIER-CHAMBRILLON - GREGE
- Pascal FOURNIER - GREGE
- Sébastien RAVON - Zoodyssée
- Guillaume LE LOC'H - Exotic Pets and Wildlife Clinic, ENVT (Replacement: Philippe GOURLAY – ONIRIS)

The role of this group is to examine the situation, take joint decisions and formulate proposals, especially when the case encountered is different from the situations anticipated in the present document.

This Diagnosis Unit will also work with a network of local-contact veterinarians, working within the range of the European Mink. They can be fire-service veterinarians or volunteer veterinarians from the SAGIR network (*Annexe 4*).

According to the situation, this group may seek support from other national or international experts.

III – Management process for an individual in distress



IV – Role of the scientific and technical facilitators

The scientific and technical facilitators of the PNA firstly conduct a telephone interview with the observer in order to fill out a simple **report form**.

This exchange needs to determine whether it is necessary to call out a local-contact veterinarian. The interview is conducted on the basis of simple criteria using vocabulary appropriate to each person.

To do this, the scientific and technical facilitators will use the report form in *Annexe 2*. They will send this form to the veterinarian if he/she is called out. The utilisation of video and photo media is recommended at this stage in order to communicate (and combine) uninterpreted observations between the facilitators, local-contact veterinarian and diagnosis unit. The recommendations given in *Annexe 3* for taking photos should be respected.

The scientific and technical facilitators of the PNA should keep updated an identification file for each individual captured, based on their transponder numbers or identifying features in the case of untagged individuals.

It should be noted, in order to avoid the PNA facilitators being telephoned too frequently, with the risk of calling out the local-contact veterinarians too often, that the training sessions given in the framework of the PNA should include awareness-raising about the normal or abnormal behaviour of the European Mink.

Contact details of the scientific and technical facilitators:

Christelle BELLANGER (OFB): 06 27 36 05 89 / christelle.bellanger@ofb.gouv.fr

Maylis FAYET (OFB): 06 20 78 62 78 / maylis.fayet@ofb.gouv.fr

V – Role of the local-contact veterinarians

The local-contact veterinarians will be called in function of their geographical location with regard to the observer and according to their ability to travel in order to provide the fastest possible care for each case.

A meeting will be held with the local-contact veterinarians on validation of this protocol in order to share a common level of knowledge. Other meetings will be held as often as necessary to ensure the continuous training and informing of each veterinarian.

The **local-contact veterinarians** are listed below (updatable list) :

Pascal FOURNIER

Christine FOURNIER-CHAMBRILLON

Sébastien RAVON

Guillaume LE LOC'H

Philippe GOURLAY

Fire-service veterinarians and SNGTV (list in *Annexe 4*)

After training, new local-contact veterinarians could be added to the list, which should be regularly updated.

When it is considered necessary to call out a local-contact veterinarian to the place where it was found, the individual must be kept safe until his/her arrival.

On his/her arrival, the veterinarian will systematically perform a more thorough **clinical assessment**: he/she will examine all the criteria covered by the assessment grid³ in *Annexe 5*.

During the assessment, he/she will strive to limit any sources of stress as much as possible. The utilisation of photos and videos is recommended in order to facilitate exchanges with the diagnosis unit.

Additional precautions must be taken to limit the risks of COVID-19 transmission. For all handling, **protective gloves and FFP2 mask** must be worn. The utilisation of sanitising gel before and after handling is highly recommended. In the event of a person presenting symptoms, under no circumstances should he/she handle the animal.

Cages must therefore be cleaned and disinfected before and after each utilisation, even out of COVID-19 context, for example by spraying a bactericide/virucide solution such as 1% Virkon.

After the **clinical assessment**, the **local-contact veterinarian** will report his/her conclusions to the **Diagnosis Unit**. In the case of doubt during the clinical assessment, he/she may also seek support from the Diagnosis Unit. **This initial clinical assessment will not result in anaesthesia being administered**. Nevertheless, the option of utilising specific methods remains (restraint, sedation...) at the local-contact veterinarian's discretion in function of the context.

❖ **In a case of confirmed distress**, the veterinarian once again ensures the animal's safe-keeping and initiates its transportation to the nearest health centre capable of receiving.

The taking into care of an individual by a local-contact veterinarian will be done using an appropriate transportation box (typical model presented in *Annexe 6*). The individual should be kept in the quietest possible conditions, with water and food provided in function of its state, together with any other first aid considered appropriate by the local-contact veterinarian. It is not intended to administer a tranquilliser before transportation.

Each local-contact veterinarian should have two such transportation boxes. The veterinarian will place an identical **identification label** on the completed scoring grid, on the report form given to him/her, and on the transportation box.

The transportation will be carried out as quickly as possible, either by the local-contact veterinarian (after informing the OFB) or by the OFB. **The clinical assessment grid filled out by the local-contact veterinarian, the report form and the set of identification labels must remain with the individual during transportation and be delivered to the health centre.**

The scientific and technical facilitators must be informed of the individual's departure and arrival times.

³ This grid was developed as part of the drafting group for this protocol. The physical and behavioral parameters to be observed were defined on the basis of current veterinary knowledge, in particular the clinical signs of known diseases, and their detectability and measurability in the field. The definition of the weights was made from data collected on European mink in the wild in France and Spain since the 1st PNA 1999-2004 and on individuals from the Zoodyssée conservatory breeding. It may evolve according to the evolution of knowledge on the species. It may evolve according to the evolution of knowledge on the species.

❖ **In a case of life-threatening prognosis and visible suffering**, and with the agreement of the diagnosis unit (if it can be mobilised within an hour), the local-contact veterinarian may carry out chemical euthanasia. In this case, the individual's carcass will be conserved by the local-contact veterinarian, **refrigerated** and transmitted within 24 hours for a complete post-mortem examination to the nearest veterinary school (Nantes or Toulouse – see section VII). The post-mortem examination will be carried out in collaboration with a veterinarian from the diagnosis unit. **The clinical assessment grid completed by the local-contact veterinarian, the report form and the set of identification labels must remain with the individual.**

❖ **In a case of unconfirmed distress**, the individual will be released *in situ*.

VI – Choice and role of the health centre

The care of an individual by a health centre requires specific authorisations. In addition, given the little knowledge that we have, a limited choice of health centres is judicious so as to concentrate the level of expertise. Moreover, the choice should be oriented towards centres that benefit both from infrastructure appropriate to the dual objectives: diagnosis and care/reintroduction of individuals.

The choice of the centre needs to meet specific keeping conditions which, in particular, could require quarantining, the setting up of permanent care, and logistical holding capacities for unpredictable durations.

For these reasons, the Diagnosis Unit chose to work with the veterinary schools of Nantes and Toulouse, which both satisfy the prerequisite conditions. Moreover, they are the two veterinary schools closest to the known range of the European Mink.

- ENVT (Guillaume LE LOC'H's team) :
23 Chemin des Capelles, 31300 Toulouse 05 61 19 23 21

- ONIRIS (Philippe GOURLAY's team) :
101 Rte de Gachet, 44300 Nantes 02 40 68 77 77

Other health centres not cited above but situated on the edges of the PNA area will be informed so that they can direct the information to the right persons in the event that their organisation receives a telephone call.

On reception of the individual, the health centre will strive to **limit contacts as much as possible**, be they visual/auditive/tactile or olfactive, in order to limit stress levels. The individual will firstly be **placed under observation** (calmness, rehydration, feeding), with regular surveillance including at night. The duration of this phase is at the centre's discretion. The means of assessment and/or clinical examinations considered necessary by the veterinarians of the health centre (if needed with the support of the diagnosis unit) will be implemented in function of the state of the animal. Regular weighing and, if necessary, feeding will be set up. A monitoring file of the individual will be opened, using the number of **the identification label**. The same applies to all reports or samples concerning the individual.

❖ **In the event of a degradation** in the state of the individual (prolonged anorexia, significant clinical disorders: digestive, neurological, cutaneous, respiratory, locomotive ...), complementary examinations will be accrued out under anaesthetic. In this case, samples (total blood, serum and faeces) will be taken to be conserved in a serum/organ bank and a transponder will be fitted. An initial report and conclusions will be sent to the diagnosis unit, which may then intervene, in function of the results. The centre will maintain close links with this unit to carry out all the investigations required to understand the individual's.

In the event of samples being taken (blood, plasma, faeces, urine...) to establish a diagnosis, or euthanasia (carcass), they must be autopsied within 24 hours or, if necessary, conserved by the health centre for subsequent analyses and be marked with the individual's identification number. Likewise, the medical imagery (ultrasound, radiograms...) carried out must also be conserved. The health centre will draw up a **final report on the observations made and treatments administered**. All of the above will be maintained at the disposal of the PNA facilitators.

❖ **If recovery** is to be carried out, everything will be implemented so that the release can be envisaged under favourable conditions (provision, if possible, of a pool for swimming, fishing, live prey ...). Once the individual is considered by the health centre as ready to be released, a transponder will be fitted under anaesthetic (with the taking of samples to be conserved), if no transponder has been fitted during a previous clinical examination.

❖ **In the event of possible release**, no preventive treatment will be administered (vermifuge, vaccine ...) because it would sap the individual's energy and be ineffective in terms of the population (the body should be seen as an ecosystem: if it is in equilibrium the intervention is pointless and vaccines do not provide lasting immunity). However, if examinations have shown the presence of a contagious disease, the state of infectiousness should be reassessed before release (the precise list of diseases to be tested will be drawn up later and will be updatable in function of feedback on experience). The individual will be transported by the OFB or a local-contact veterinarian after OFB permission. The release will take place as close as possible to the place where the animal was initially captured, under favourable meteorological conditions and with food available for several days. According to the case, monitoring could be set up after release using hair tubes, automatic chip readers and photo traps targeting the food made available, or even recapture.

❖ **In case of recovery without the possibility of release** (impaired mobility after-effects, transmissible disease, inability to feed itself...) the diagnosis unit will consult with the coordinating DREAL to decide on the individual's future, particularly with regard to its usefulness for conservation purposes within the ex-situ French population.

VII – Management of carcasses

In the event of the euthanising or death of an individual, the whole carcass will be conserved, and post-mortem examinations systematically carried out by the veterinary

schools of Nantes and Toulouse in accordance with a procedure to be defined by the diagnosis unit. Removal of organs will be carried out to perform complementary investigations, eliminate doubt about a diagnosis and acquire additional reference information concerning the species (histology, toxicology, blood composition, parasitology, virology, bacteriology...).

VIII – Final report and compilation of knowledge

All samples and removed organs must be referenced and remain available for any other utilisation in the framework of the PNA. All clinical reports and final analysis reports (with photo and/or video media) will be made available to the PNA.

All samples and removed organs will be temporarily stored in the veterinary schools awaiting a national long-term strategy (location, database...).

The scientific and technical facilitators of the PNA will draw up an annual summary regarding the implementation of this management protocol for individuals in distress.

According to the final reports concerning the care of individuals, management measures could be envisaged in order to fight against the pressures on European Mink populations. Their feasibility must be assessed with regard to observed effects and risks faced by the populations according to the types of pathologies.

In the event of an epidemiological type of pathology, surveillance of other species in the wild could be envisaged.

Annexe 2: Report form



Report form for European Mink in distress

Facilitator of the PNA (Surname, First name, Tel)	
Observer (Surname, First name, Tel)	
Location (commune, lieu-dit)	
X/Y coordinates	
Date and time	

Specific identification criteria:

Context:

Animal caught in cage Animal on roadside Animal found in the wild

Age: young / adult / don't know
Sex: male / female / don't know

Description of the immediate environment (trapping framework, urban context, riverbank, weather...):

Observer's visual assessment of animal's general state: *Criteria that alerted the observer (behaviour, respiration, coat, eye, faeces...)*

<p>If first capture: Weight: Provisional identification number:</p>	<p>If recapture: Transponder number: Weight: Weight loss? How much? Number of captures: Known antecedents:</p>
<p>If captured by baited cage (meat bait): Consumption of the bait? yes / no / unsure</p>	

Local-contact veterinarian called: yes / no

If yes: Surname, First name, Tel

Recommendations concerning the safe keeping of the individual: protect against the weather, limit noise nearby, prevent access by domestic animals, provide water and/or food.

Future of the individual: *impossible to capture, dead, released or further clinical assessment*

Annexe 3: Recommendations for taking photos

(Derived from the recommendations drawn up by the SAGIR network)

Principe : ce qui est évident pour vous ne l'est pas pour les autres !

- ✓ Systématiser la prise de photos avec des angles de vues et des cadrages utiles : doivent être compréhensibles pour avis d'experts
- ✓ Réaliser des clichés standards, minimum 5
- ✓ Penser au flash forcé : le désactiver pour les gros plans
- ✓ Être bien en face de l'objet à photographier
- ✓ Éviter d'avoir le soleil en face
- ✓ Être perpendiculaire à la surface d'intérêt
- ✓ Définition suffisante : 2-3 Mo minimum
- ✓ Vérifier que les photos ne sont pas floues !
- ✓ Pointer ce que vous voulez montrer sur la photo si ce n'est pas évident à voir
- ✓ Éviter de prendre des personnes ou parties de soi en photo

Organiser sa prise photo : les photos concernant un même objet (animal, lésion, trace...) doivent se suivre !

- ✓ Toujours du plus général au plus détaillé
- ✓ S'il y a beaucoup d'éléments, les numéroter sur la vue générale
- ✓ Les photos en gros plan doivent présenter une échelle (si possible avec des règles plastifiées)
- ✓ Penser à la traçabilité des dossiers photos

Photos de détails

- ✓ Doubler les plans : d'abord un plan large permettant de situer l'objet de l'observation et d'avoir les correspondances anatomiques puis faire un plan rapproché fixant les détails
- ✓ Attention à ne pas trop brusquer/stresser l'animal en voulant faire un trop gros plan

1. Environnement général

Objectif grand angle

Photographier

- Plan d'ambiance : photo des 4 angles de la scène et se servir d'éléments comme les arbres pour aider à se repérer dans les photos
- Chemin d'accès
- Plan large de l'animal à partir du chemin d'accès

2. Autour de l'animal

Photographier

- Toute trace biologique et non biologique : sang, vomissure, appât, empreintes, crottes...

3. Sur l'animal

Photographier

- Position du corps
- Orifices, yeux et dentition si possible
- Tout corps étranger
- Toute lésion externe

Annexe 4: Contact details of fire-service veterinarians and regional SAGIR technical point of contact (SNGTV)

Veterinarian regional SAGIR technical point of contact: Camaldine CAMARA (07 86 49 10 34 - c.camara@meluvet.fr)

Departments	Veterinarians contact details	Departmental fire-service
85	Capucine LEMAGNE 06 81 13 82 56 capucinelemagne@gmail.com Thierry DOREAU 06 88 58 91 64 t.doreau@orange.fr	Les Oudairies, 85017 La Roche-sur-Yon 02 51 45 10 10
17	Vincent HAUTEFRAIT 06 85 32 77 53 Eric MOUNET Aurore BIDAUT Jean-Marc BETISOT	Rond-Point de la République, 17180 Perigny 05 46 00 59 09
16	Charlotte PERRAIN 06 85 66 45 73	43 Rue Chabernaud, 16340 L'Isle-d'Espagnac 05 45 39 35 00
24	Olivier PENNANT 05 53 54 90 14	2 Route de Pommier, 24660 Notre-Dame-de-Sanilhac 05 53 35 82 82
33	Pas de contacts	22 Boulevard Pierre 1er, 33000 Bordeaux 05 56 01 84 40
40	Pas de contacts	Rocade, Rond-Point de Saint-Avit BP42 - 40001 MONT DE MARSAN CEDEX 05 58 51 56 56
47	Alain BLINEAU Bertrand DESROUSSEAUX Jean-Marie HEDON Jan LAMOTE	8 rue Marcel Pagnol BP 16 47 510 FOULAYRONNES 05 53 48 95 00 ddsis47@sdis47.fr
64	Vincent MAHE 344 Bd de la Paix 64 000 PAU	33 Avenue du Général Leclerc, 64000 Pau 0 820 12 64 64

Annexe 5: Clinical assessment grid for European Mink 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 (\geq Q1 for the period) whether first capture or recapture	0	
Sex	Females		Males		First capture with weight between Q1 and Q1-10% (for males) Or recapture with weight loss \leq 10% (for males and females)	1	
Period	Pre-breed.	Post-breed.	Pre-breed.	Post-breed.	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 ¹	480	430	775	720	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 - 10%	432	387	697,5	648	Recapture with weight loss \geq 20 % (and rate of weight loss)	4	
Q1 - 15 %	408	365,5	658,75	612	First capture with weight less than 430 g for females and 620 g for males	5	
Q1 - 20%	384	344	620	576			
Q1 - 25%	360	322,5	581	540			
- Pre-breeding: January-May - Post-breeding : June-December							
Ajustement					If more than one score = 4, add one point per box		
TOTAL							

Any score at 5

Score between 0 and 9

Score between 10 and 15

Score above 15

Automatic taking into care and transportation to a health centre

Release *in situ*

Decision to be taken together with the diagnosis unit

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 (version du 14/10/2020)

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

Annexe 6: Transportation to health centres

The European Mink individuals captured and identified as being in distress must be transported to one of the wildlife health centres capable of receiving the species, namely Veterinary schools of Nantes or Toulouse.

ONIRIS : 101 Rte de Gachet, 44300 Nantes

ENVT : 23 Chemin des Capelles, 31300 Toulouse

Transportation can be carried out by an OFB agent or a local-contact veterinarian in any vehicle, on condition of complying with the conditions listed below.

The Mink must be placed in suitable transportation boxes (one individual per box), compliant with the following technical characteristics (see plan and photographs below):

- The boxes need to be made using a single smooth material with air holes, which is easy to maintain. At least one side needs to include a plate of Plexiglas enabling observation of the animal without completely opening the box.
- The boxes must be securely closed to prevent escape.
- The dimensions must be as shown on plans below.
- The floor of the box must be covered with a waterproof sheet and hay to absorb excretion and limit the risk of injuries.
- Water and food must be provided in the boxes; in function of the length of the journey, regular halts should be made to provide water and food, and check that everything is going well.
- The boxes and all associated elements must be thoroughly disinfected before and after each time they are used.
- Single-use gloves and a mask must be worn to handle both boxes and individuals.
- The boxes must be tied or wedged in place so that they cannot move during the journey.
- In the vehicle, the boxes need to be protected from light and noise but well aired, without being in a draught.

Plan of relaxing and transportation boxes for European mink:

