

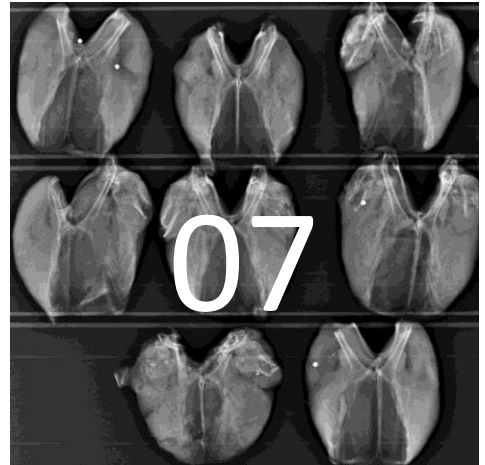


NEWSLETTER // SUMMER 2022



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## ON THE COVER

### **Eurasian Otters (*Lutra lutra*)**

Photo credit: Josh Jaggerd



### **Disclaimer**

The editors have put this non-citable bulletin together as carefully as possible and apologise for any errors or omissions may have been committed. The content of this newsletter has not been peer-reviewed and does not necessarily reflect the views of the European Wildlife Disease Association.

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# President's corner



## “So long, Farewell, Aufwiedersehen, Aurevoir”

This is my last “President’s corner” piece. It has been a very unusual two years of chairing the European section of the Wildlife Disease Association. Filled with VIRTUAL board meetings, business meetings, webinars and even our first ever online conference which was a resounding success. A little bittersweet on my end since I will not have had the honour to open or close an EWDA conference in person. *Man plans and God laughs.*



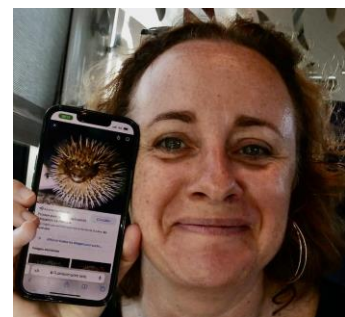
Chairing this association has been a very enriching experience. For those of you wondering if they should join the board or committees : **don't hesitate** ! Being part of such a wonderful and motivated group of professionals will lift your spirits and give you hope for the future ! Let us know if you are interested in serving !

During these two years, I have been able to assist in putting the EWDA forward at the European and wider International level. Maybe thanks to our growing visibility, we were approached in the past few months by several European colleagues and asked to participate in a Cost Action «[SafeGameMeat](#)» and more recently on a focus group on [International Coordination of Research on Infectious Animal Diseases](#). Whilst these are still in early stages, it is great to see the EWDA recognized as a key player at the European level. You will also see in this newsletter several partner features from fellow professional associations that have indicated their interest in setting up regular collaborations. And given that we are all in the same 'wildlife rescue boat', it only seems fitting to get to know one another and see where we can help each other out.

To compensate for lack of in person meetings, the past and future board and committee members have decided on a small hybrid meeting in Lyon on September 1<sup>st</sup> and 2<sup>nd</sup> where we will continue to work towards more exciting projects. We hope you will join us at the **Virtual EWDA Business meeting on Friday September 2<sup>nd</sup> at 3pm CET** which will be the chance to invite you to our next in person conference in 2024 (teaser in this newsletter).

**Have a great summer and continue to take care of yourselves and your loved ones !**

PS. My profile picture is a shout out to a young and talented colleague that has dubbed me 'the puffer fish' because I may look cute, but... you get the idea !



**Karin Lemberger**

EWDA chair  
Vet Diagnostics  
and Faunapath,  
Lyon, France

# NOTES FROM THE BOARD



## *“EWDA board – winter and spring months”*

The **EWDA board** met in February, flanked by several meetings of the **EWDA** chair, vice-chair and secretary with representatives of the **EAZWV**, as well as meetings with **WDA** and **AAZV** officers. Both zoo-oriented organisations had independently approached EWDA and WDA respectively to address common fields of interest. As a basis for discussion, the WDA/EWDA officers compiled some suggestions for possible future collaborations. Exchanges between the organisations will continue.

Winter 2021/2022 was a busy time for the **nomination committee** as several positions of the EWDA Board were due for election. **Many thanks** to **Marie-Pierre Ryser**, **Jolianne Rjiks** and **Paul Duff** for their commitment to finding candidates for nine open positions! In addition, their work has resulted in proposals for minor changes to the election procedure affecting the Bylaws.

These suggestions, as well as other necessary changes to the bylaws, will be presented to EWDA members soon for comment and later voting. Please look out for upcoming emails on this topic. **Special thanks** to **Becki Lawson** and **all others** who contributed and took on the tedious work of proposing changes to the bylaws.

**Gábor Czirják**, EWDA Eastern countries communication facilitator, has joined the **WDA membership committee**, which is “focused on identifying the needs of members and improving the value offered to them. The committee works to increase the diversity of membership and to ensure that WDA is an inclusive association”. One of their goals is to review and re-define the current **list of low-income countries**. Something important also to the EWDA, as some European countries might need to be included here.

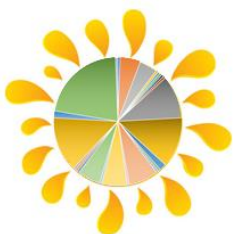
As of May 2022, the **EWDA membership** comprises the following countries: **Geographical members**: Austria (9), Belgium (8), Bulgaria (1), Croatia (1), Cyprus (1), Czech Republic (1), Estonia (1), France (19), Germany (22), Greece (3), Hungary (1), Ireland (1), Italy (13), Mongolia (1), Netherlands (11), Portugal (10), Romania (1), Slovakia (1), Slovenia (1), Spain (24), Switzerland (3), United Kingdom (38);

**Members by choice**: Australia (1), New Zealand (1), USA (1) and

**NWDA members**: Denmark (3), Finland (3), Norway (10), Sweden (19).



**Gudrun Wibbelt**  
Leibniz Institute for Zoo  
and Wildlife Research,  
Berlin,  
Germany  
EWDA secretary



**Enjoy your summer wherever you will be !**

# News from the EWDA Student Chapter



2022 – *virtually connected to the world*  
2023 – *back out there!*

**After having the pleasure to organise a multinational webinar earlier this year, the EWDA Student Chapter is now looking forward to the next in-person workshop!**

“*How to get into wildlife?*” was the topic of our webinar held in April of this year. And while this still had to be a virtual event, this actually worked out to our advantage:

We were able to connect students and professionals of all WDA sections from around the world – and everybody got a glimpse of what the field of Wildlife Health is like on other continents!

Not only did everybody here in the EWDA Student Board have a grand time putting together this amazing day, it also inspired us:



We live in an increasingly connected world in which threats to environmental, animal, and human health change are rapidly emerging. However, this interconnectedness also gives us a greater chance for collaboration than ever before. Therefore, the **2023 EWDA Student Workshop** will focus on:

**Combining talents, sharing knowledge:  
Emerging infectious diseases in the age of One Health**

This 3-day event will be held at the Autonomous University of Barcelona (AUB) and is planned to feature talks all around the topic of emerging infectious diseases:

What does a first response look like? How are they investigated? How is information about a disease distributed amongst professionals and the public? How do we implement our knowledge into management strategies?

We are looking forward to welcoming you in Barcelona next year – in the meantime, keep an eye out for updates!



*EWDA Student Workshop*

2023

**When?**

07. April – 09. April 2023

**Where?**

Barcelona, Spain

**Who?**

All EWDA students welcome!  
30 active participants will be able to investigate a disease outbreak scenario

*Stay updated!*



@EwdaStudent



@ewdastudentchapter



ewdastudent@gmail.com



# Announcements



## EWDA Network for Wildlife Health Surveillance is seeking new Committee members!

We are seeking expressions of interest from members active in the field of wildlife health surveillance to join our committee in September 2022, in four positions:

- Lead for development of Species Cards
- Lead for the Google Group
- Lead for the WildList
- Member-at-large, to assist with activities such as meeting organisation

If you are keen to get involved as a committee member, either now or in the future, please email [ewda.network@gmail.com](mailto:ewda.network@gmail.com) by **1st August 2022** with a **brief bio** outlining your background in wildlife health surveillance, **current role**, and **your motivation** to become involved.

The [EWDA Network for Wildlife Health Surveillance](https://ewda.org/ewda-network/) (<https://ewda.org/ewda-network/>) was formed in 2009 with the following goals, to:

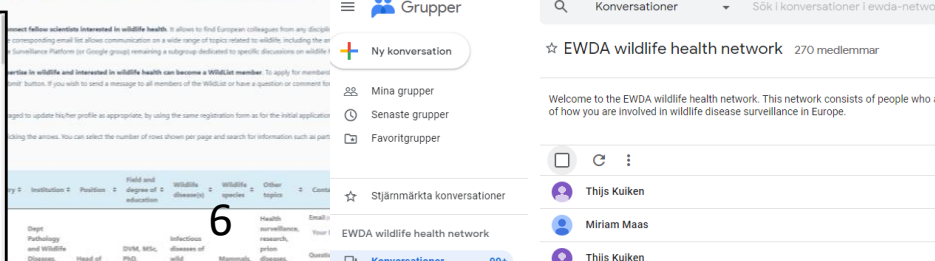
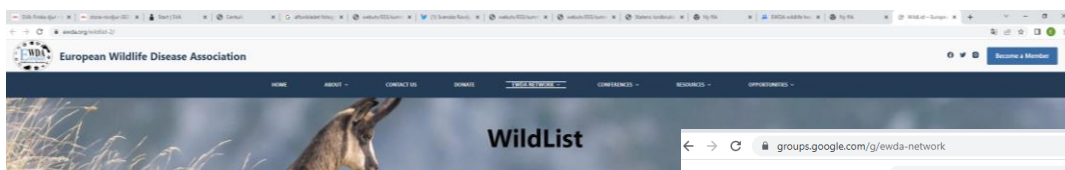
- Improve exchange of information among wildlife health surveillance programmes in Europe
- Develop standard operating procedures for diagnostic investigation
- Develop common criteria for diagnosis of wildlife disease
- Share specialist expertise
- Provide training opportunities for wildlife health surveillance

To achieve these goals, the EWDA Network

- Arranges [regular meetings](#)
- Creates and updates a library of [Diagnosis Cards](#) and [Species Cards](#)
- Facilitates communication through the [EWDA Google Group](#) and the [EWDA WildList](#).

We very much look forward to hearing from you!

On behalf of the current [EWDA Network committee](#)



# Banning lead

## From wildlife conservation to Olympic rule change

*"The image of hunters in a modern society is simply not compatible with lead ammunition, and game meat cannot be marketed as healthy if it may contain a potent neurotoxin."*

**On May 4<sup>th</sup>, lead-ban advocates from all over Europe met in Spain to discuss and join forces on (i) the implementation of the restriction on the use of lead ammunition in EEA wetlands and (ii) the advocacy work on a full ban on the use of lead ammunition in all hunting/sport shooting and the use of lead in fishing weights.**

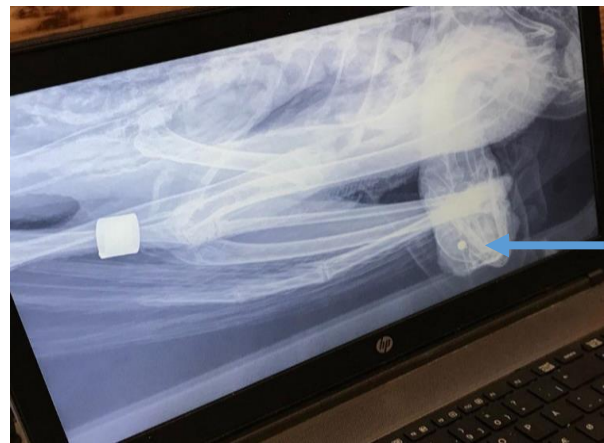
The EWDA previously submitted both evidence and a response to a consultation from the **European Chemicals Agency** (ECHA) to support both:

- Restriction of lead gunshot in wetlands in all European Union Member States under REACH (the EU's framework regulation for chemicals).
- Restriction on the placing on the market and use of lead in projectiles (for firearms and air guns), and in fishing sinkers and lures for outdoor activities (excluding military use), also under REACH.

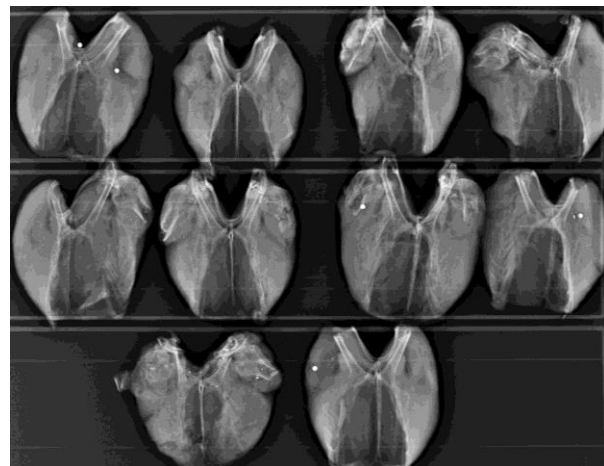
The "wetland lead ban" was adopted in January 2021, and from 15 February 2023 onwards **legislation must be in place** in all 27 EU Member States. The extent to which the ban has been implemented varies between countries, ranging from a lead ban in specific wetlands or for waterbird hunting to a national ban on the use in all wetlands.

The restriction also allows Member States to **ban lead gunshot in all areas** if 20% or more of the country's territory is wetlands. It seems that Ireland may be trying to recalculate the proportion of land classified as wetlands to avoid this. On the other hand, Denmark and The Netherlands have a total ban on lead gunshot use in all types of habitats since over 20 years.

For the full lead ban, the science is sound, but more work needs to be done to **convince policymakers.**



*Embedded shot in a wounded pink-footed goose is an animal welfare issue but does not induce lead poisoning in the bird as ingested lead shot does.*



*Lead shot pellets and lead fragments in hunted avian breast muscle is an unnecessary source of lead ingestion for humans, and for raptors scavenging on wounded or discarded game bird carcasses. Radiograph: Erik Ågren, SVA*

# Banning lead

## From wildlife conservation to Olympic rule change

The wetland lead ban is/will be mostly implemented in **sanitary regulations**, not hunting laws, meaning **big fines**. Opponents of the ban argue that a lead ban in wetlands is **difficult to enforce** - who is willing to go out and check whether hunters are using the correct ammunition? This argument **supports a full lead ban!**

Other commonly used arguments against a lead ban:

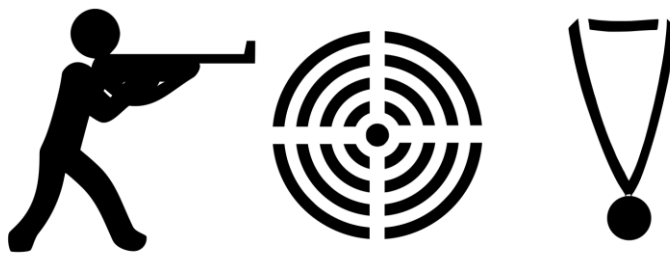
- “There is an increased risk of exploding guns/choke bulging ricocheting shots when using non-toxic ammunition”.
- “Lead alternatives are more expensive, and a limited variety is on offer”.

Hunter, wildlife conservationist and lead-ban advocate Niels Kanstrup (Aarhus University, Denmark) investigated these claims and found **no increase in accidents** with non-toxic ammunition in Denmark. Furthermore, he found that tungsten and copper are more expensive, but **steel** is as expensive as lead.<sup>1</sup>

*“If the demand for non-toxic ammunition is there, availability and variety of non-lead alternatives will follow (law of supply and demand).”*

Read more from hunters who are also scientists:

[Alternatives to Lead Ammunition - Sorting Fact From Fiction](#)



### Olympic regulations

Another argument against a full lead ban is that the Olympic regulations only accept lead ammunition in official competitions, meaning that “EU athletes will be disadvantaged”. Recruiting sport shooting **athletes** who are willing to back a change in Olympic regulations is therefore on the list of things to be done. If not for wildlife conservation and public health (by reducing lead intake by consumers from game meat), it would reduce their own exposure to **lead dust** which is discharged each time they fire a gun.

*“California hosting the 2028 Olympics offers a spark of hope: they have a full lead ban to conserve the Californian condor.”*



# Banning lead

## From wildlife conservation to Olympic rule change

Another important task ahead is to carefully review ECHA's and its committees' evaluation of the **socio-economic impacts** of a full lead ban, which will be published **this Summer**. Interested parties will have no more than **60 days** to provide feedback on the draft.

The opposition's main argument will be that it is **too costly** to implement a full lead ban. Unlike the evidence that those in favour of a ban provided previously in the form of peer-reviewed scientific papers to support both bans, the **industry** provide data (e.g. production volumes) which are impossible to verify. It will therefore be essential to assess whether the required data is both (i) **correct** e.g., where do the provided numbers come from? and (ii) **present**, as currently the costs to poisoned wildlife and losses of birds of conservation importance are not included.

Besides the technical side of this proposal, it is important to communicate that the **ban is not an anti-hunting ploy**. The image of hunters in a modern society is simply not compatible with lead ammunition and meat cannot be marketed as sustainable **and healthy** if it may contain a potent **neurotoxin**.

Another observation from Denmark is that during the time since a complete ban on the use of lead gunshot, mean **concentrations of lead in meat** from small game animals substantially **decreased**. In contrast, elsewhere in Europe meat lead concentrations increased over time<sup>2</sup>.

If adopted, a full lead ban would reduce lead emissions to the environment by approximately 1.7 million tonnes over 20 years, thereby protecting wildlife and humans<sup>3</sup>.

Ending lead poisoning from ammunition and fishing weights in the EU would be a great benefit to European wildlife health and allow conservationist, veterinarians etc. to focus their efforts on **other issues**.

The EWDA will submit a response to the consultation, and I hope that individual members can do likewise.

### References

1. Kanstrup, N., 2019. Lessons learned from 33 years of lead shot regulation in Denmark. *Ambio*, 48(9), pp.999-1008.
2. Pain, D.J., Green, R.E., Taggart, M.A. et al, 2022. How contaminated with ammunition-derived lead is meat from European small game animals? Assessing and reducing risks to human health. *Ambio*.  
<https://doi.org/10.1007/s13280-022-01737-9>
3. European Chemicals Agency, 2021. Towards sustainable outdoor shooting and fishing – ECHA proposes restrictions on lead use. ECHA/NR/21/07.



**Anne-Fleur Brand**  
Newsletter Editor  
EWDA Board

# EWDA Diagnosis cards

## From the EWDA Network Committee



*“Diagnosis cards: a resource to support methods harmonisation for wildlife disease detection”*

**The aim of the EWDA Diagnosis Cards is to share knowledge on appropriate diagnostic methods for diseases or disease agents in wildlife and to promote methodological harmonization throughout Europe.**

One of the major aims of the EWDA Network is to facilitate information sharing on wildlife diseases and to develop standard operating protocols for diagnostic investigations.

The Diagnosis cards perfectly fit into this objective. They were originally produced as part of the EMIDA-ERANet (coordination of European Research on Emerging and Major Infectious Diseases of production Animals, <http://www.emida-era.net>) “harmonised Approaches in monitoring wildlife Population Health, And Ecology and Abundance” (APHAEA) project.

Diagnosis cards were created with the intent to encourage the use of harmonized procedures for sampling, analysis, pathogen detection, and disease diagnosis. After the end of the APHAEA project in 2015, the EWDA Network has continued to update and expand the library of cards available.

To ensure scientific rigor, the procedure for publishing a Diagnosis card is similar to the publication of a scientific article. Once the disease of interest has been identified, one or more experts are invited to write the card using an established template. The draft is then sent to other experts for peer review. Once the Diagnosis Card has been written, reviewed and corrected, the final version is made freely available as a PDF to download from the EWDA website <https://ewda.org/diagnosis-cards/>.

The Diagnosis cards are designed for ease of reference. The typical sections of an article are present. The card begins with a brief introductory overview of the disease, then an indication of susceptible species; essential data about epidemiology; the major clinical signs; the main anatomopathological and histological findings, and finally criteria and methodologies useful to determine the diagnosis.

In particular, each Diagnosis card outlines a list of recommended diagnostic method(s) and preferred samples, and the advantages and limitations of each method. Key supporting references are cited for further consultation, if additional details are required. The "EWDA proposed protocol for harmonization at large scale" corresponds to the method(s) considered most practicable for harmonization among European countries, i.e. it should deliver a cost-effective and acceptable result for comparison at the continental level with a focus on the population rather than the individual scale.



**Antonio Lavazza**

DVM

IZSLER

Brescia, Italy

# Diagnosis cards From the EWDA Network Committee (cont'd)

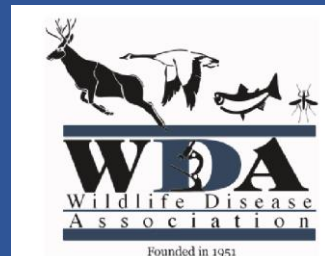


Finally, each Diagnosis card provides a list of laboratories able to perform diagnosis that can be contacted in case of need of assistance. Listed laboratories may be able to offer support to interested researchers or less experienced laboratories by sharing protocols and/or confirming the diagnosis of suspect samples.

To date, 26 Diagnosis cards have been published in a special section of the EWDA website (<http://ewda.org/diagnosis-cards/>); some of these were recently updated to account for new findings or changes in the international situation. This is the case for diagnosis cards about Avian Influenza, West Nile virus and Lagoviruses.

The card on African Swine Fever will be updated soon. Finally, new Diagnosis cards about Canine distemper, COVID-19, emerging Flaviviruses, Encephalomyocarditis virus infection, and Marine Morbillivirus have been added since 2021, and more cards will be published soon, so stay tuned!

## WDA-Wide WEBINARS Call for speakers!



### ***"EWDA MEMBERS, COME SHOWCASE YOUR WORK !"***

The WDA has launched a new initiative : **WDA-Wide Webinars**

The objective is to offer our membership additional content on wildlife health, strengthen a community of persons interested in wildlife health and feature WDA member expertise.

The Webinars will be held quarterly and will rotate in days and times to accommodate global time zones. All webinars will be taped and made available to members on the WDA-YouTube channel.

Details of the webinars will be circulated in the weekly WDA announcements, typically 30 days in advance. *Access to the webinars will be limited to WDA members.*

Webinars will rotate through Sections and the WDA is currently looking for speakers for **September 2022, December 2022 and March 2023.**

If you are interested, please contact the **EWDA chair** [ewda.chair@gmail.com](mailto:ewda.chair@gmail.com)

# HPAIV H5 in Aquatic Top Predators



Image: ITAW AW

*“Should we expect an increase of unusual spillover events?”*

## **Three harbour seals (*Phoca vitulina*) and one Eurasian otter (*Lutra lutra*) died due to highly pathogenic avian influenza virus (HPAIV H5) infection in Northern Germany in 2021**

Last years 2020/2021 HPAIV epidemic accounted for thousands of infected birds and mammals across Europe, probably representing one of the worst of its kind in Europe ever since (Adlhoch et al., 2021). Besides birds as main affected clade, transmission events of avian influenza to mammalian hosts, including aquatic mammals, are known (Reperant et al., 2009). In the frame of the current epidemic, HPAIV H5 was found in seals and an otter from the UK, Finland, and Germany (Adlhoch et al., 2021; Floyd et al., 2021; Postel et al., 2022). Seals reportedly have been infected with HPAIV in Europe before (Shin et al., 2019), whereas this was not the case for Eurasian otters to the knowledge of the author. Previously, influenza infections (H10N7) in investigated seals primarily affected the respiratory tract (Reperant et al., 2009; Bodewes et al., 2015). However, influenza virus (H4N5; H7N7) was isolated from the brain of dead seals from the US before (Reperant et al., 2009).

During summer 2021, at least three adult harbour seals from the German North Sea coast died due to HPAIV (H5N8) infection. Interestingly, highest virus loads were recovered from the brain tissue, whereas tracheal swabs were negative for IAV genome. This confirmed the histopathological results, showing mild to moderate meningoencephalitis in all three seals (Postel et al., 2022). Similar findings were made in five harbour- and grey seals (*Halichoerus grypus*) from the UK in late 2020 that died during attempted rehabilitation (Floyd et al., 2021).

In February 2021, a Eurasian otter from the federal state of Lower Saxony, Germany, showing neurological disorder was euthanized after attempted rehabilitation. Histopathological investigations revealed hyperemia and moderate meningoencephalitis of the brain. Later on, HPAIV was detected in a brain sample, belonging to H5N8 (Rohner et al., unpubl. data). Together with recent findings from previous years, it is indicative that HPAIV can spill over to mammalian hosts, such as aquatic top predators like seals and otters. Spillover from migrating birds may be fostered in flyway hot spots like the German Wadden Sea. Besides the respiratory tract, the central nervous system seems to be affected primarily in those fatal cases. Future post mortem investigations should increasingly consider aquatic mammals as potential hosts for HPAIV and include brain samples in their analysis.



**Simon Rohner**

Institute for Terrestrial and Aquatic Wildlife Research (ITAW)  
Büsum, Germany

*Special thanks belong to Martin Beer, Timm Harder, Peter Wohlsein, Ursula Siebert and the dedicated staff of the Aktion Fischotterschutz e.V., OTTER-ZENTRUM Hankensbüttel.*

# Wildlife disease highlights from Sweden



“Sweden reports and HPAIV...”

## Northern gannet die-off and continued avian influenza cases has been dominating wildlife diseases in Sweden, based on the surveillance work at SVA in Uppsala.

In Sweden, in addition to the high number of **avian influenza** cases among geese, swans and birds of prey seen through 2021, there has in the last months been reports of numerous dead and debilitated Northern gannets (*Morus bassanus*) along the Swedish west coast where examinations are ongoing, some cases positive for avian influenza. Dead gannets have also been reported along the coasts of neighbouring countries. In addition, there has been large influenza driven mortalities in Sandwich tern (*Thalasseus sandvicensis*) colonies, a tern species of concern in Sweden, and conservation efforts have been ongoing for a long time. The die-off now threatens the 2021 breeding season in some colonies.

With inspiration from the **Garden Wildlife Health** setup in the UK, we have in 2021 initiated a similar programme at SVA in Sweden. So far, we have over seven hundred interested people who feed garden birds. They are encouraged to report sick and dead birds or urban wild mammals in the online reporting form **rappporteravilt.sva.se**. As reptiles and amphibians have seldom been reported or submitted to the general disease surveillance programme, we are now asking in our newsletters to the Garden Wildlife members, specifically for reports and attention on these animal groups to improve screening of some of their diseases, such as chytridiomycosis and ophidiomycosis.



**Erik Ågren**

National Veterinary  
Institute (SVA)  
Uppsala, Sweden

The English report on Swedish wildlife disease surveillance 2021 is now available online, and for the first time, also the large carnivore report has also been published in English, <https://www.sva.se/en/animals/wildlife/>

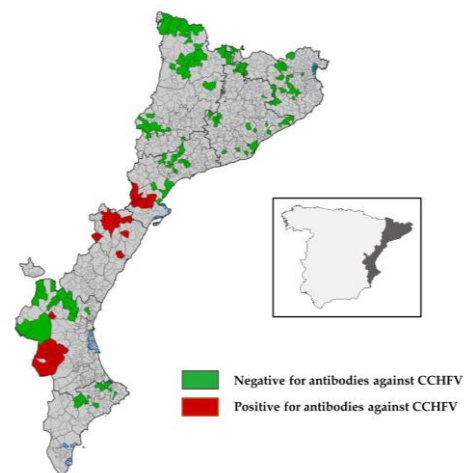
# Crimean-Congo haemorrhagic fever in ungulates from east Spain



*"The virus is endemic in eastern Spain at least since 2010, but is mainly restricted to geographic clusters with extremely high seropositivity, associated with high density of bovid species."*

**Crimean-Congo haemorrhagic fever virus** (CCHFV) is a tick-borne pathogen that can induce a severe and potentially fatal systemic disease in humans. Ticks, mainly of the genus *Hyalomma*, act as vectors and reservoirs of the virus. In wildlife and domestic animals, the infection is generally subclinical but induces the production of antibodies, enabling the identification of affected areas through serological studies. CCHFV is endemic in several countries of Asia, Africa, the Middle East and south-eastern Europe, but emerged in 2010 in south-western Europe when it was firstly detected in ticks collected from a red deer in central Spain. Since then, ten human clinical cases have been reported in the country, causing a social alarm among the population.

Our objective was to evaluate the possible circulation of CCHFV in eastern Spain, by conducting a serosurvey for antibodies against CCHFV in wild ungulates from this area. We used samples collected from 2010 to 2021, and antibodies were detected in 48/48 **European mouflon**, 187/205 **Iberian ibex**, 56/506 **wild boar**, 1/79 **roe deer**, and 0/174 **red deer**. The majority of seropositive samples clustered in **two main areas**, both close to key stopover wetlands for birds migrating from Africa to Europe, adding weight to the hypothesis that CCHFV was introduced in Spain via migratory birds carrying infected ticks. As well, by detecting seropositive animals since 2010, we showed the virus is **endemic** in eastern Spain.



We were surprised by the high seroprevalence in mouflon and Iberian ibex, as well as by the opposite results in other species. This scenario differs greatly from other endemic regions of Europe, where wild boar and red deer are considered key ungulates in the epidemiology of the virus. As a result, the specific ecological determinants of the epidemiology of CCHFV in the Mediterranean ecoregion, including the tick species involved, need further evaluation. Fortunately, the two foci of high CCHFV seropositivity correspond to areas with low human density!

**Collaborators:** Carrera-Faja L., Cabezón O., Napp S., Cardells J., Lizana V., Pailler-García L., Marco I., Lobato-Bailón L., Ribas M.P., Dias-Alves A., Alfaro-Deval G., Valldeperes M., Encinosa-Guzmán P.E.

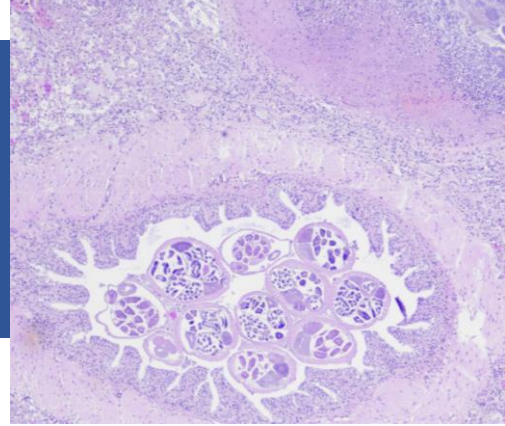
**Further information:** Carrera-Faja L., *et al.* (2022) Evidence of Prolonged Crimean-Congo Hemorrhagic Fever Virus Endemicity by Retrospective Serosurvey, Eastern Spain. *Emerg Infect Dis.* 2022;28(5):1031-4.; Espunyes J., *et al.* (2021) Hotspot of Crimean-Congo Hemorrhagic Fever Virus Seropositivity in Wildlife, Northeastern Spain. *Emerg Infect Dis.* 2021;27(9):2480-4.



**Johan Espunyes**

Wildlife Conservation  
Medicine Research Group  
(WildCoM), Autonomous  
University of Barcelona,  
Spain

# Investigating the mortality of European Hedgehogs in France



*“A high, increasing, multi-factorial mortality”*

**The European hedgehog (*Erinaceus europaeus*) is a common species of our rural and peri-urban environment. It is also a bio-indicator of a good-quality environment. Yet, this species is commonly perceived as declining within its home range, leading to conservation concerns. Carried out at the CHENE's rehabilitation centre, our study highlights a sharp increase of hedgehog admissions as well as a high and increasing multi-factorial mortality of the individuals admitted.**

Analysis of the data collected between 2006 and 2021 showed that hedgehog admissions increased exponentially from 2012. This increase was steeper than in all species taken together and related particularly to juveniles. Simultaneously, hedgehog mortality also increased, particularly in young animals, reaching 76% for the last decade.

In our study, 159 hedgehog carcasses were thoroughly necropsied to identify their causes of death via histopathology and ancillary testing (bacteriology, parasitology, virology, toxicology, hematology...) when warranted.

The primary cause of death was identified in 85% of the animals. Bacterial infections were the most prevalent, most of them involving commonly identified pathogens in hedgehogs (*S. enteritidis*) but also some emerging ones (*Corynebacterium ulcerans*). Traumas were the second most prevalent cause, including road collisions, agricultural activities, and predation. Last of the top-three, animals died from a general loss of condition, including hypothermia, dehydration, weakness and cachexia, probably linked with a lack of food resources. Hedgehogs were frequently infested by internal parasites, but only a small portion of positive individuals exhibited serious impairment.

Toxicological analyses highlighted that hedgehogs were frequently exposed to cadmium, lead and anticoagulant rodenticides. However, death due to intoxication was only retained in rare individuals. Screening for over 200 pesticides was negative. Further investigation of the role of exposure to contaminants is necessary.

The study confirms a sharp increase of admissions and a high and increasing mortality of hedgehogs in the CHENE but it does not detect any new disease likely to represent a risk for the conservation of the species.

These results underline the need of more complete data at the national or European scale of animals admitted in wildlife rehabilitation centres and their populations in the wild. Studies of the demography of wild populations as well as sociological aspects of the collection of wildlife are of prime importance.



**Julien Hirschinger**

Project manager  
EVAAS, VetAgro Sup  
Marcy l'Étoile, France

# European Association of Zoo and Wildlife Veterinarians



*“Helping Vets Help Wildlife”*

**We are the membership organisation representing European veterinarians committed to improving the health, welfare, and conservation of wildlife through advancements in zoo and wildlife medicine and promotion of the full and proper use of specialist wildlife veterinary expertise in the management of both captive and free ranging wildlife. Formed in 1996 we now have over 600 members representing 55 countries.**

The European Association of Zoo and Wildlife Veterinarians recently had its annual conference in Emmen, the Netherlands. This was our first in-person meeting since the start of the pandemic and this was our very first hybrid event too! It is still difficult to express how it felt to see 300 colleagues in person from Tuesday to Sunday, including all board and other meetings, workshops, lectures and panel discussions!! This, with the additional 104 other vets online, altogether from 35 countries was a great success!

This conference is usually the place where we hand over the Rudolph Ippen Young Scientist Award: This year the winner was Catarina Jota Baptista. Congratulations to her and the winners of the two former years - as in the last two years all of our meetings were online, we could use this opportunity to shake hands with the 2020 (Christoph Leineweber) and the 2021 (Friederike Pohlin) winners too! Regarding other grants the newly established Peer Zwart Research Grant was announced during the event.

Our association has a very complex structure, where many work is delivered by the various working groups and regional sections. These working groups are the Ethics and Welfare, the Wildlife Conservation, the Education and Training, the Legislation, the Infectious Disease, the Vet Advisor and the ZIMS. The latter four are joint working groups with the EAZA (European Association of Zoos and Aquariums), one of our strategic partners.

With another sister organization, the AAZV (American Association of Zoo Veterinarians), we will hold our next joint conference in Toronto, Canada in 2024. In 2023 Valencia will be our host – of course we would be very happy to see as many EWDA/WDA colleagues both as members and conference participants!

Moreover, our Student Section has a new president, Elina Rantonen. Students are very important members (close to one fourth of our membership), therefore we are excited to work in a common project with EWDA and WDA for mentoring in the near future. With AAZV we also run our common journal, the Journal of Zoo and Wildlife Medicine.

All in all, we are very proud and motivated to collaborate more closely with EWDA and WDA in the future!



**Endre Sós**

*Budapest Zoo and  
Botanical Garden,  
Hungary*



# Wildlife health and reproduction: EAZA RMG



*“Providing specialist advice on reproductive management for wildlife under human care”*

**The European Association of Zoos and Aquaria Reproductive Management Group (EAZA RMG) are a group of veterinarians, animal managers, and researchers with an interest in the reproductive management of *in-* and *ex situ* animal populations.**

We aim to assess, as necessary, the impact of reproductive decision making on animal health and welfare, helping animal managers to achieve their demographic and genetic population goals. We are committed to using an interdisciplinary, holistic, and evidence-based approach to support population sustainability, while maintaining healthy, breeding populations.

Our work largely focuses on two complimentary areas of reproductive management: enhancing and limiting reproduction. To improve reproductive success, we try to practically evaluate factors that limit reproduction *in-* and *ex situ* using surveys, behavioural, and endocrine monitoring, and reproductive health assessments. When necessary, we evaluate the feasibility of using Assisted Reproductive Technologies for *in situ* recovery efforts and during translocation projects.

With regards to limiting reproduction, we try to identify safe, effective, and reversible methods to manage population growth, particularly in situations with human-wildlife conflict. Our focus falls largely on the use of contraceptive products, and we, in collaboration with the Association of Zoos and Aquariums Reproductive Management Center, maintain a global Contraception Database that contains over 50,000 records of contraception use in managed wildlife, *in-* and *ex situ*. These records are used to analyse trends in contraception use across species, and to develop evidence-based recommendations for the wider community. Ultimately, we aim to ensure that population management decisions are complimentary to reproductive health and the maintenance of reproductive potential.

## What we do:

- Training in basic reproductive management
- Reproductive health assessments
- Design reproductive monitoring projects
- Develop customized reproductive and contraceptive advice

The EAZA RMG are interested in strengthening links with like-minded organisations, such as EWDA. For more information, take a look at our website [eazarmg.org](http://eazarmg.org) or contact [v.cowl@chesterzoo.org](mailto:v.cowl@chesterzoo.org).



Images taken from reproductive health assessments on Owston's civets (*Chrotogale owstoni*) carried out in partnership with the Wild Planet Trust, ECOLifes, and Nature's SAFE.

## EAZA RMG

EAZA Reproductive Management Group



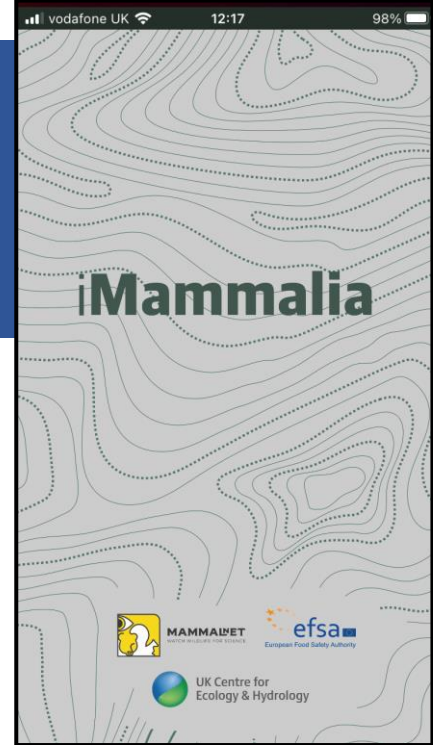
**Veronica Cowl**

Reproductive Biology  
Coordinator, Chester  
Zoo/EAZA, Chester,  
UK/Amsterdam, the  
Netherlands.

# Mammal Recording

*"Collect data while not working!"*

**Wildlife disease assessments require information on host distribution and abundance. iMammalia is a smartphone app to collect any mammal sightings across Europe, with a particular emphasis on under-reported countries. We would encourage you to submit records wherever you are, particularly since summer holiday travelling is now upon us.**



iMammalia is a smartphone app to collect mammal sighting data from anywhere in Europe: <https://european-mammals.brc.ac.uk/en>. Biodiversity recording is important to understand species distributions, invasion biology, conservation species and to underpin wildlife disease risk assessment.

This is an EFSA-funded app, produced by the MammalNET (mammalnet.com) consortium, but also promoted by ENETWILD and FAO currently available in 17 languages with photos and some basic information on all larger European mammals. Small, more cryptic mammals can also be recorded to a generic level by giving the exact species name and a description in the comments.

Since this is aimed at general members of the public, we use a strict verification system to confirm records, that relies on any attached photos, any detailed description and the users past history of recording.

Since its launch in late 2019 we have collected over 17,000 records, with over 15,000 of these already verified and submitted to the global database GBIF. Many of these records are in the Balkans, where data are limited and for some countries we have now provided more data to GBIF than existed since 2019 for Croatia, Montenegro, North Macedonia, Serbia and Poland!

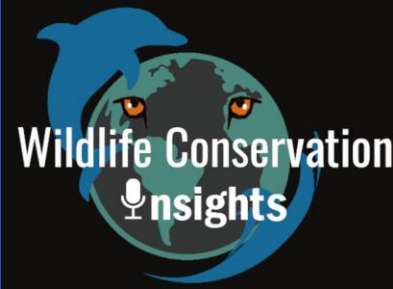
We invite you join the realm of citizen scientists, download the app and record mammal sightings wherever you travel across Europe. You can also check that we have the latest list of correct species for each country and be assured that the data will contribute to biodiversity monitoring and disease assessments. It can also be used to report dead wild boar sightings that can be followed up to investigate possible ASF cases.



**Graham Smith**  
APHA, UK  
for MAMMALNET

# Wildlife Conservation Insights

## How to trigger vocations?



*"If we can teach people about wildlife, they will be touched. Because humans want to save things that they love"*

*"Bonjour! I am Estelle, your host and this is Wildlife Conservation Insights, the podcast dedicated to the connections between wildlife and human being. You want to know more about wildlife? About what's going on: Why some species are becoming endangered? What are the challenges our world is facing? You want to meet people that dedicate their life to save animal species? Specialists that want to better understand the new challenges animals and human are facing? You want to be proactive and also participate in species conservation? This podcast is for you!"*

The Wildlife Conservation Insights podcast is founded by me, Estelle, a French veterinarian specialized in zoological and aquatic medicine, and I am passionate about wildlife. My podcast focuses on the role of human being on animal species conservation and on how each person, you and me, can help protect and preserve animal species. The goal of this podcast is beyond education; through interviews I want to trigger vocations of new generations, to make them understand they will have to continue what was previously done, in a better and more clever way. We need to be better communicators of the work we are doing to be understood by the larger public. If we can teach people about wildlife, they will be touched. Because humans want to save things that they love.

My podcast is celebrating one year of existence as it started June 2021. There are now 13 episodes and two bonuses. I am happy to have over one thousand and one hundred listeners from 74 countries! The audience is primarily from the US and France, with the UK and Australia right after! I am delighted to have people from all over the world following it. I think it is now time to give it a different dimension; focused more on what is needed, with more scientific content in a more interactive way.

Interested in being a guest and sharing your work on the podcast? We'd love to hear from you!

Email us: [wildlifeconservationinsights@gmail.com](mailto:wildlifeconservationinsights@gmail.com)

Also, if you are a student and would like to be involved in the many aspects of doing a podcast, from running interviews to editing, please do not hesitate to reach out!

How to find The Wildlife Conservation Insights Podcast: It is available on Apple, Spotify and all other podcast platforms. You can also listen to all the episodes on our website: [estellevet.com](http://estellevet.com)



**Estelle Rousselet**

DVM, PhD, Dipl. ACZM

Founder of Wildlife  
Conservation Insights,

FRANCE



The Friedrich-Loeffler-Institut is delighted to host the

## 15<sup>th</sup> EWDA Conference in Stralsund/Greifswald, MV, Germany from 9<sup>th</sup> to 13<sup>th</sup> September 2024

### *One Health: Challenges and Opportunities for the Surveillance and Management of Wildlife*

- Wildlife-Livestock-Human Interface: One Health, ecosystem health and disease surveillance
- Disease ecology, emerging and re-emerging wildlife diseases
- Wildlife population health and management, conservation and policy
- Host-pathogen interactions
- Impact of climate change and urbanization
- Prevention and pandemic preparedness
- Non-communicable diseases in wildlife
- Aquatic animal health



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**We are looking forward to welcoming you at the Baltic Sea!**



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Friedrich-Loeffler-Institut**

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