

Delivering One Health by preventing poisoning:

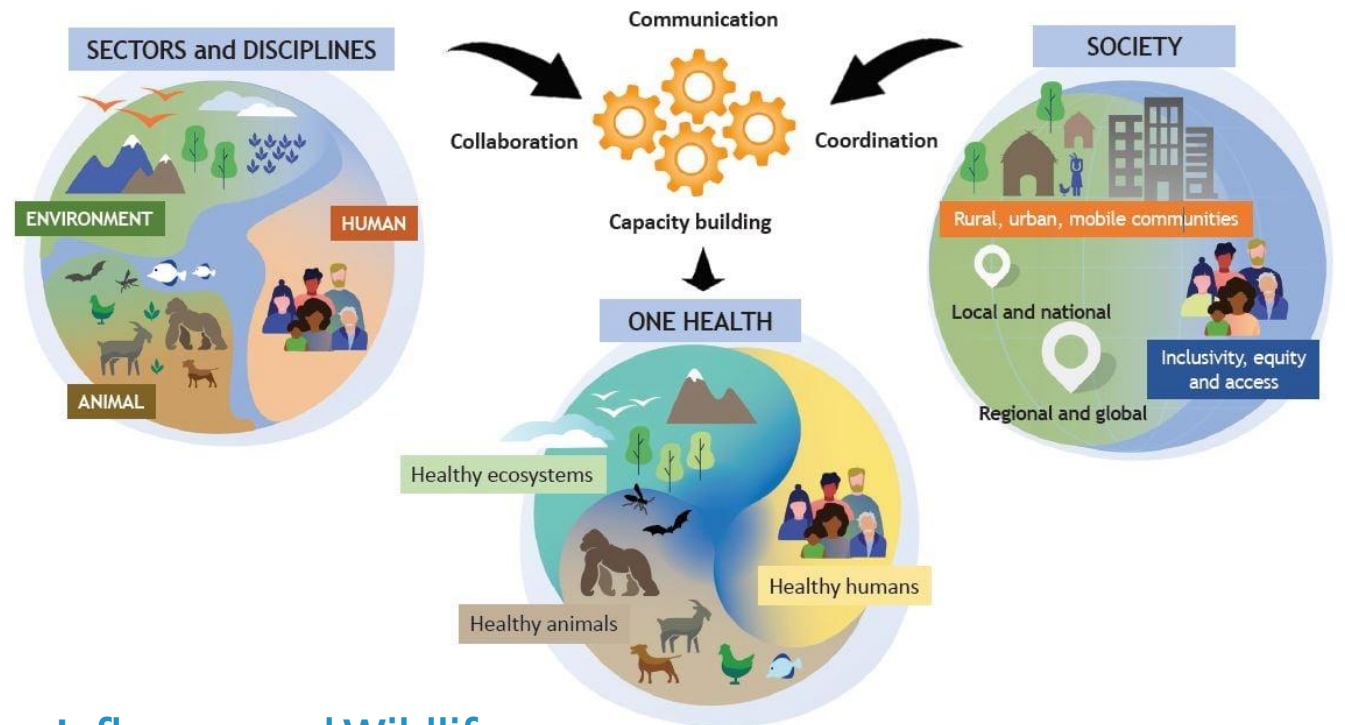
What is happening to our key opportunity to ban lead ammunition?

Dr. Ruth Cromie

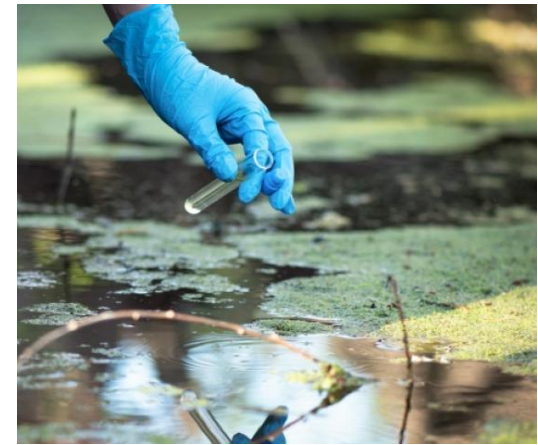
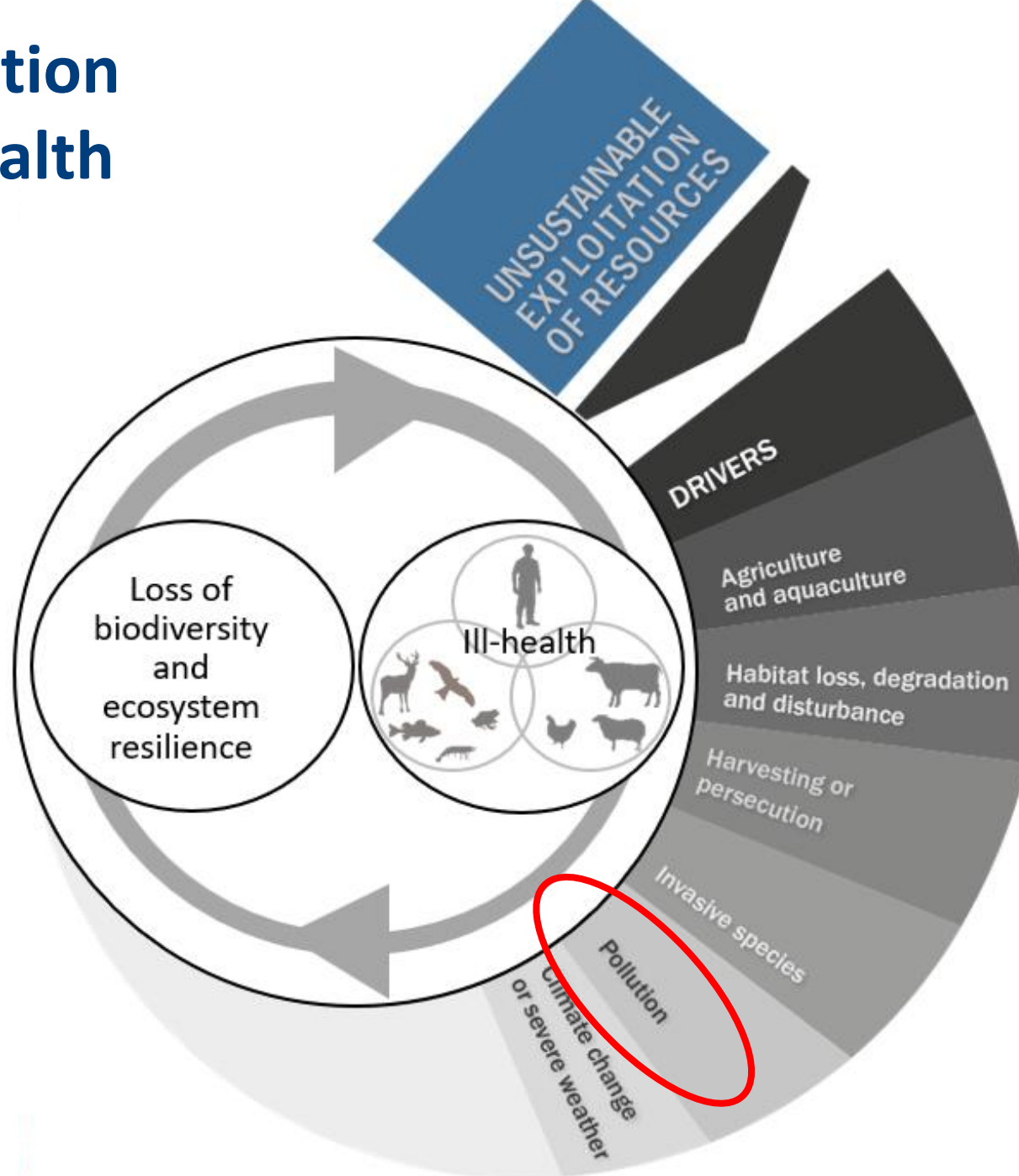
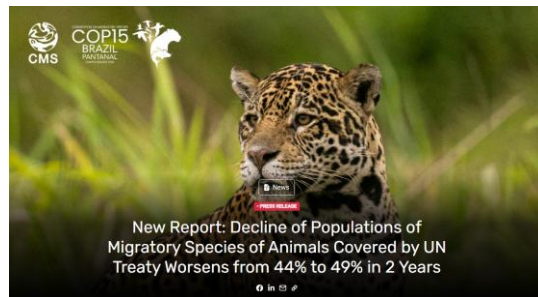
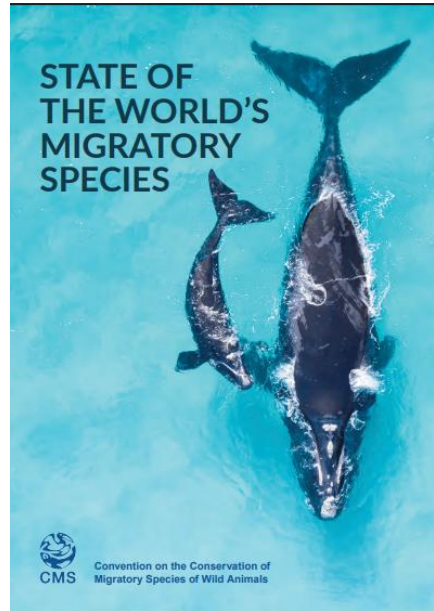
CMS COP-Appointed Councillor for Wildlife Health

CMS Preventing Poisoning Working Group

Coordinator of CMS FAO Scientific Task Force on Avian Influenza and Wildlife

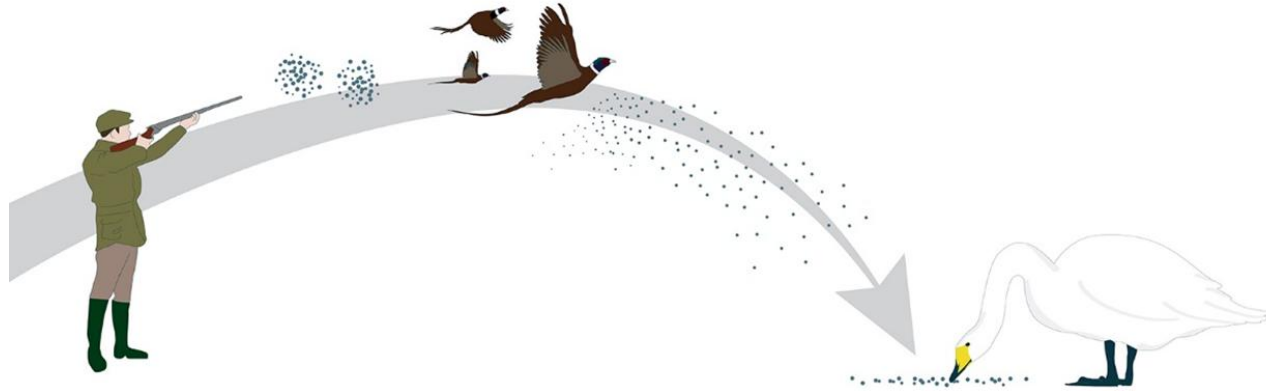


Drivers of population decline and ill-health



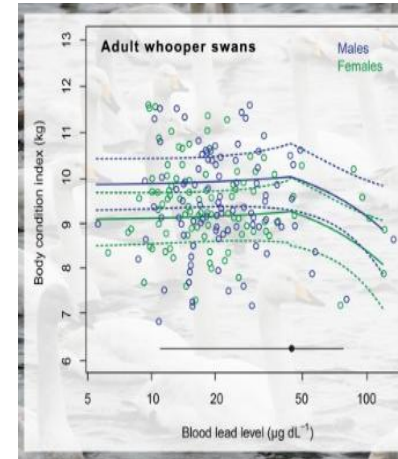
Credit: Rob Pringle / Harvard University

Sub-lethal impacts of lead poisoning



Reduced

- fecundity
- mobility
- ability to find food & evade predators
- *immuno-competence*



- 42% clinically significant blood lead levels
- Lead responsible for 1 in 10 in poor body condition

Newth et al. 2016, *Env. Poll.*

Fatal lead poisoning from lead shot in waterbirds

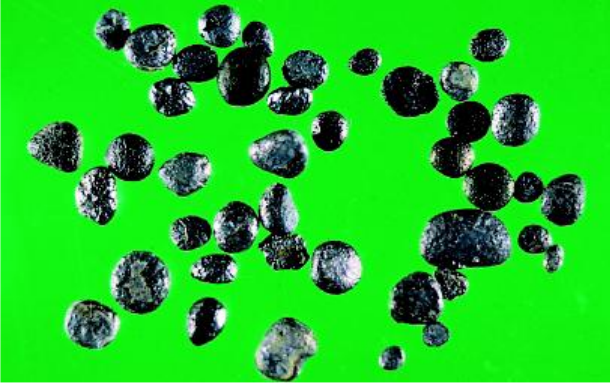


Fatal lead poisoning from lead shot in waterbirds

Europe:

~1 million deaths of 17 wildfowl species *alone* annually.

~1 million terrestrial birds annually (ECHA, 2022)



Availability and tonnage of lead ammunition in the EU environment

~45,000 tonnes of lead shot and bullets have been dispersed annually (wetlands and terrestrial habitats)

~3 million tonnes in my lifetime – unknown proportion recycled



Bullets and shot expose predators and scavengers

Shot



High proportion of quarry species carrying embedded shot = 10 – 40%

Bullets



Effects of lead exposure in Scandinavian brown bears

By Amanda Hoyer Boesen

Backed by Alex Boesen, Gitte Christensen, Dino Container, Mette Høgh, Ane Eriksen Hamilton, Mino Cruzoé, Tom Clownfish, Sophie Amalie Nygaard Ladefoged, Frederik Klejs, Christian Sonne, and 139 other backers



E.g. European white-tailed eagles – 14-28% deaths

UNIVERSITY OF CAMBRIDGE

Birds of prey populations across Europe are suppressed by lead poisoning from gun ammunition

Story: Fred Lewsey



Science of The Total Environment
Volume 823, 1 June 2022, 154017



The impact of lead poisoning from ammunition sources on raptor populations in Europe

R.E. Green ^{a,b,1}, D.J. Pain ^{a,1}, O. Krone ^c

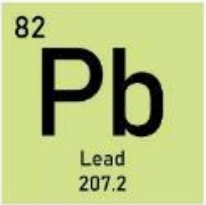
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<https://doi.org/10.1016/j.scitotenv.2022.154017>

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No safe level of lead exposure



#BanLeadPaint

FACT: LEAD IS TOXIC

It is harmful to everyone and

DAMAGES:

- BRAIN
- KIDNEYS
- LIVER
- BLOOD
- REPRODUCTIVE SYSTEM

Young children are most vulnerable. Their nervous systems are still developing and they absorb **4-5 times more than adults**, which can cause:

- intellectual disability
- underperforming at school
- behavioural issues

In adults lead exposure increases the risk of:

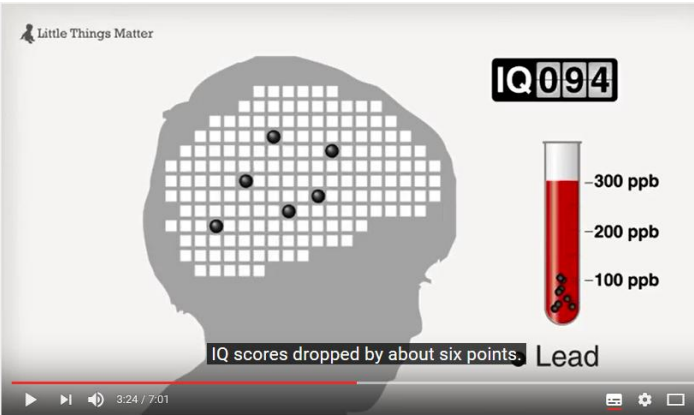
- ischaemic heart disease
- stroke

In pregnant women lead exposure damages many organs but also affects:

- the developing foetus

There is no safe level of lead exposure

World Health Organization



Little Things Matter: The Impact of Toxins on the Developing Brain

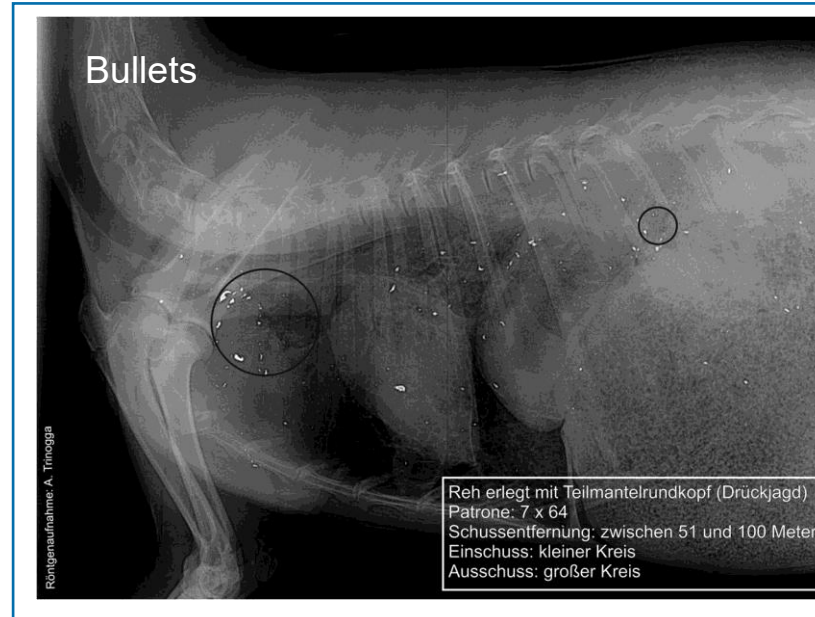
Petrol

Paint

Pipes

Ammunition

Risks to human health: in particular 'frequent' consumers, pregnant women & children



Lead bullet fragments



FIG. 8. Muestra de chorizos frescos de ciervo y gamo (Ref. 35/18 CCG).

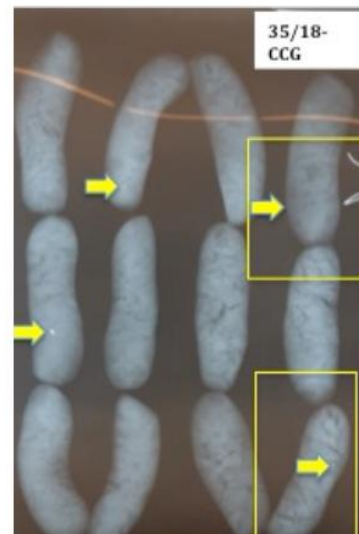


FIG. 9. Radiografía de los chorizos (imagen anterior) con material radiopaco (Ref. 35/18 CCG).

Neurodevelopmental impacts:
 1.1 million *children* at risk
 IQ loss of 7000 children / year
 70m € / year

For adults range of outcomes e.g.
 chronic kidney disease and
 increased blood pressure
 CKD - 7.5-75m € / year


The complex block contains two icons: a blue silhouette of a head with gears inside, and a blue silhouette of a human body with internal organs highlighted. The text is presented in yellow boxes on a blue background.


Toxic food: commercial bear meat products are highly contaminated with lead (Pb) from hunting ammunition

Original Paper | [Open access](#) | Published: 13 March 2026

Volume 18, article number 23, (2026) [Cite this article](#)

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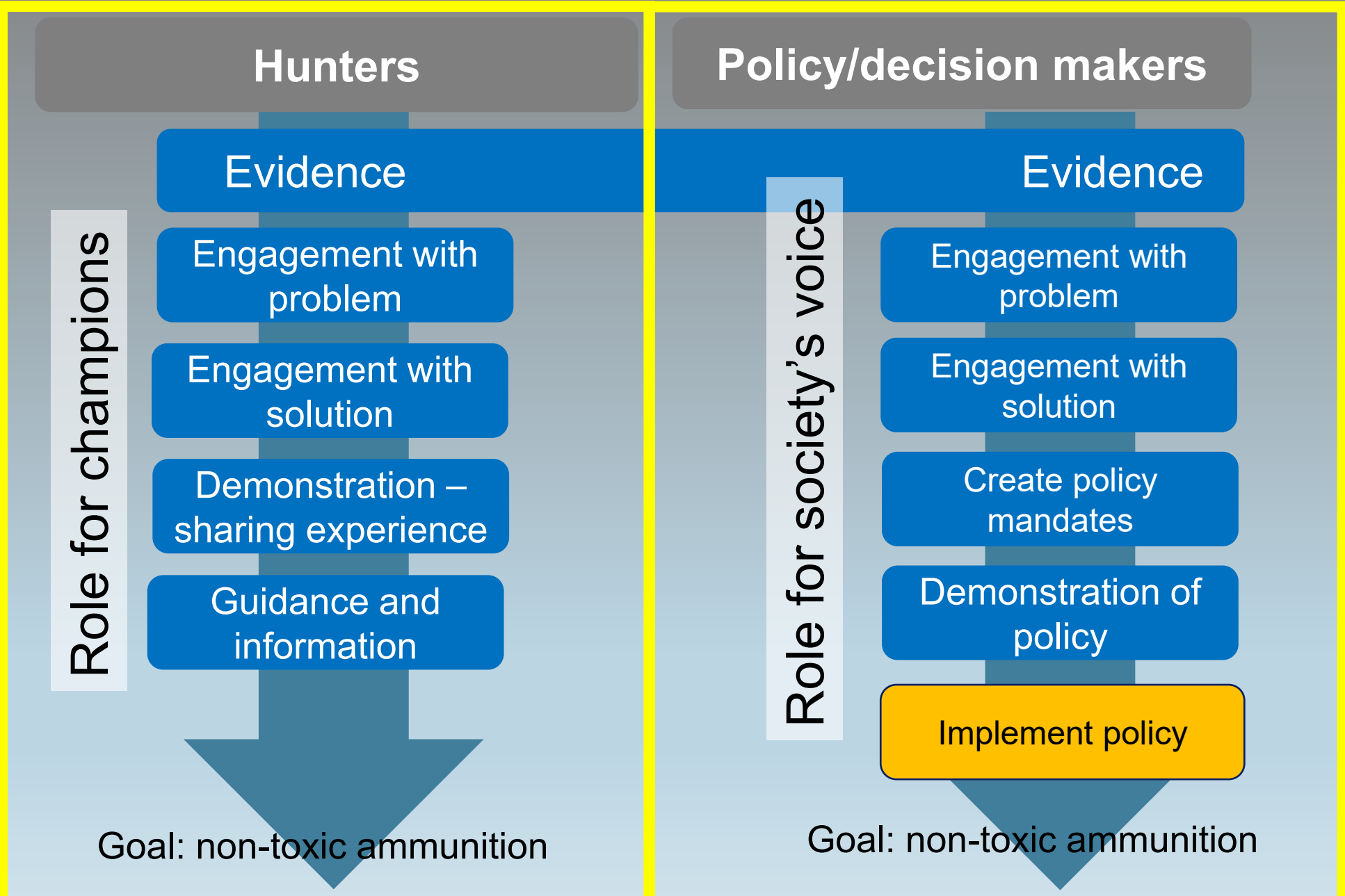
The One Health solution exists – non-toxic ammunition

Bullets – copper

Shot – steel or bismuth



Steps to a non-toxic ammunition future



International policy mandates



EU policy initiative





Time for Action !

COP11

4-9 Nov 2014
Quito, Ecuador



Res. 11.15 Preventing Poisoning of Migratory Birds



Denmark

1996 - banned all lead shot
2024 - banned lead bullets



Nothing undermines the argument that 'it can't be done' more than showing it can be done



UK

GOV.UK

Home > Environment > Chemicals > REACH regulations

Press release

Toxic lead ammunition banned to protect Britain's countryside

New ban on use of lead in ammunition to protect iconic wildlife and clean up the nation's waterways



Brussels, XXX
D105447/04
[...] (2025) XXX draft

COMMISSION REGULATION (EU) .../...

of XXX

amending Annex XVII to Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) as regards lead in ammunition

toxicological effects of lead, in particular, in birds.

- (3) The Union and its Member States are Contracting Parties to the Convention on the Conservation of Migratory Species of Wild Animals⁵ (CMS). The Preventing Poisoning Working Group (PPWG) developed Guidelines to Prevent the Risk of Poisoning to Migratory Birds ('Guidelines'), which were adopted in 2014 by CMS Resolution 11.15. The Guidelines recommend both the phasing-out of the use of lead in ammunition across all habitats and the phasing-out of the use of lead in fishing weights in areas where migratory birds have been shown to be particularly at risk of lead poisoning.

Key EU policy initiatives



REACH

Successful EU restriction essential for wider benefits



Plus e.g.
Argentina
Australia
Japan



P_b LEAD TASK TEAM
South Africa


Non-toxic
ammo
demand but
limited supply



Justin Henry, Vulture Conservation Officer at BirdLife South Africa demonstrates ammunition.

EU restriction being delayed and repeatedly weakened

– now hunting bullets removed from restriction



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Danika Barckova, a Slovak professional skeet shooter.

Lead makes you beautiful and HEALTHY!



The Parliament
OPINION BOOKS & CULTURE FEATURES INTERVIEWS PARTNER CONTENT DODS ANALYSIS PRIN
By AFEMS
The Association of European Manufacturers of Sporting Ammunition is a non-profit organisation which provides a forum for its network of members, a hub of information on sporting ammunition and a means of responding effectively to technical, scientific and legislative challenges
21 Nov 2022
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It's time for a paradigm shift in Euro-Atlantic defence and security

Is the EU's security and defence at stake?



EU's security and defence: A moratorium on the EU's proposal on lead ammunition is required
The ECHA's Restriction Proposal on lead in ammunition, if adopted as it is now, will compromise the EU's security and defence sector. A moratorium is needed to safeguard supply chain integrity and avoid making the EU import dependent.
AFEMS
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Without revisiting frozen Russia for Ukraine
to get a bigger EU
MENT & TRANSPORT
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EU's security and defence: A moratorium on proposal is required

Pros

One Health – huge range of receptors

Sustainable hunting

Markets for healthy game meat

Markets for non-toxic ammunition

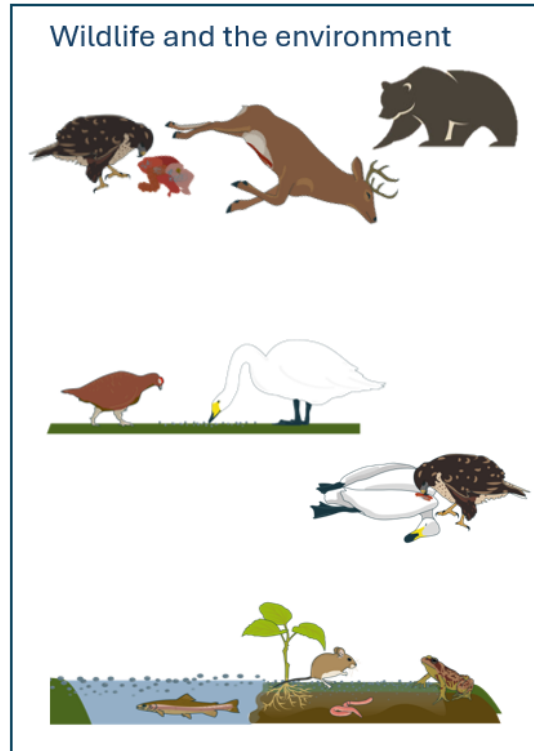
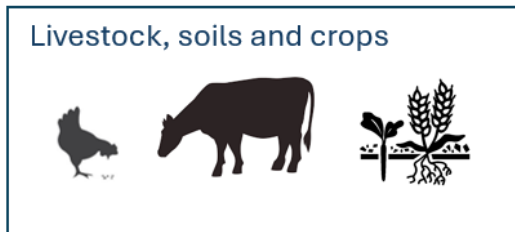
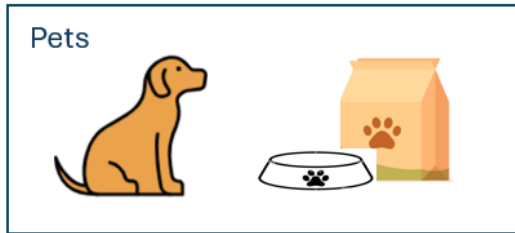
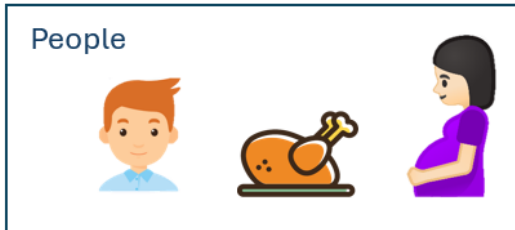
End of resource-heavy conflict

Cons

Less profit on some ammunition lines

Some small/one off costs and inconvenience for hunters

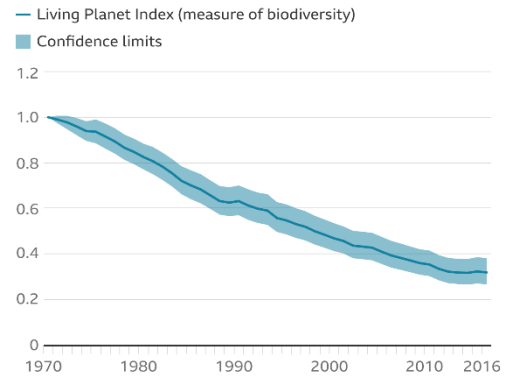
Sporting bodies need to change their rules



Wildlife is facing a polycrisis...

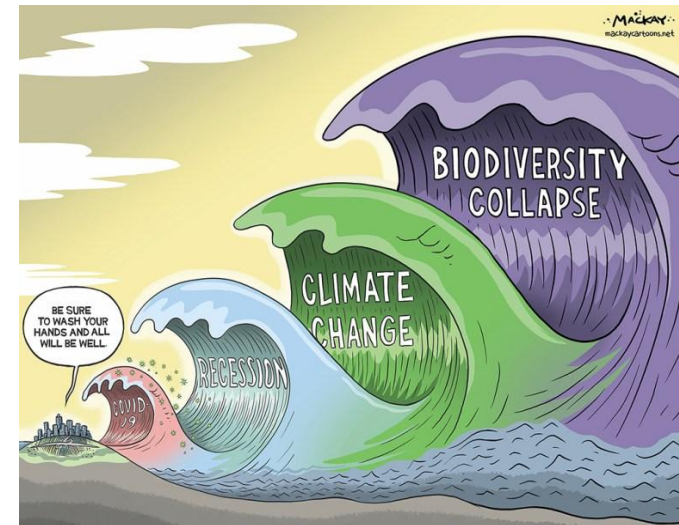
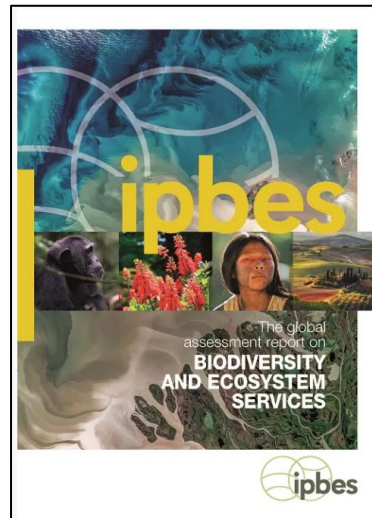
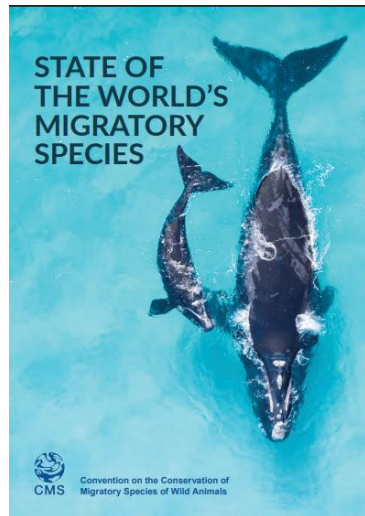
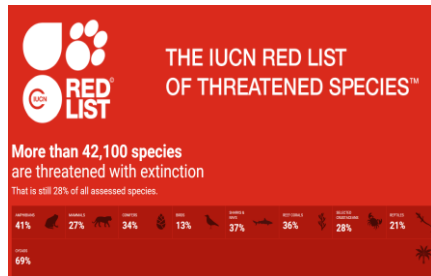
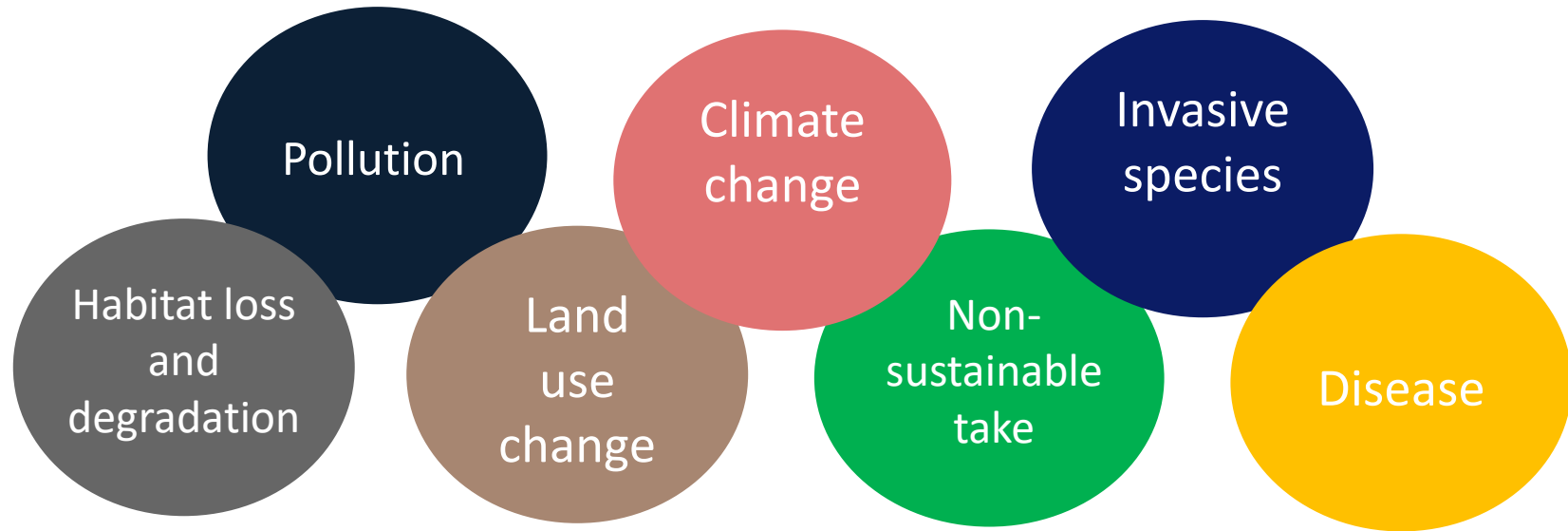
Drivers of population decline...

How wildlife has declined, 1970-2016



Source: ZSL

BBC



Take home messages

If we want healthy wildlife, people and environment and sustainability of hunting in a modern society, we need to regulate the use of lead ammunition

Plea for EU Member States to:

- Put One Health and all the other benefits of a restriction first
- Do not succumb to misinformation/disinformation
- ***Support the current REACH restriction*** - value the science and the socioeconomic analyses that support regulation under REACH
- Find a way to bring bullets back onto the table...

We must not miss this opportunity not just for migratory species in Europe but around the world.

