

Lead Ammunition: High time for a ban

Lead ammunition has been poisoning our wildlife and communities for decades. Despite the extensive suffering and deaths caused by exposures to lead shot and bullets, the previous Government ignored recommendations to ban lead ammunition to protect the environment and human health.

Voluntary efforts to phase out lead ammunition have failed. It took regulations to remove lead from petrol, paint and pipes, and it will take regulations to remove it from ammunition. Now, within the framework of chemicals regulation UK REACH, the new Government has the opportunity to ban toxic lead ammunition once and for all and to ensure transition to the widely available non-toxic alternatives.

It's a no brainer - ban lead ammunition.

Our key asks for the UK Government

We call on the Government to take decisive action in meeting the Environment Act target of halting the decline in species abundance by 2030 and to safeguard human health. Specifically, we urge the immediate and comprehensive restriction on the sale and use of lead shot and use of lead bullets under the UK REACH framework.

We respectfully request that the Government accept the recently submitted UK REACH recommendation to ban the use of lead shot and large-calibre lead bullets in hunting, in accordance with its commitment to the Environmental Principles. Furthermore, and mindful of these Principles, we call on the Government to take additional steps, as outlined below:

1. Shorten transition periods

- a. Reduce the transition period for lead shot restrictions from 5 years to 18 months – as originally proposed.
- b. Reduce the transition period for large-calibre lead bullets from 3 years to 18 months – as originally proposed.

2. Commit to swift implementation

- a. Ensure the regulations necessary to enact these restrictions are introduced without delay.

3. Restrict small calibre bullets with a 5 year transition period

4. Further strengthen the proposals with the following measures

- a. Remove derogations allowing the use of lead ammunition by athletes or at specific sites for target shooting. We urge pressure on shooting sports governing bodies to revise their rules to eliminate the requirement for lead ammunition.
- b. If derogations for athletes and specific shooting sites are maintained, implement mandatory risk management measures to recover at least 90% of deposited lead at these locations – as originally proposed.

Context

The toxic problems caused by lead ammunition

Lead is highly toxic: Lead is a heavy metal for which there is no safe level of exposure. Consequently, it has been banned from petrol, paint and pipes.

Toxic environmental contamination: Every single year [7000 tonnes](#) of lead ammunition is deposited into the wider environment, an accumulating toxic legacy contaminating soils and food chains for generations to come.

Wildlife and conservation impacts: Lead poisoning from ingestion of lead shot [poisons](#) to death up to 100,000 waterbirds per year, plus hundreds of thousands of gamebirds. Raptors (including some of the UK's most threatened species) and scavengers are at risk from both shot and bullets in the prey and carrion they eat. Sub-lethal lead poisoning affects the health and welfare of many more, including impacts on immune capability (essential for fighting diseases such as [avian influenza](#)) and reproductive success leading to population level impacts for some species.

Human health impacts: Consumption of game meat shot with lead puts at risk health of pregnant women and an estimated [10,000 children from the UK hunting community](#) alone who may suffer impacts on IQ and other deficits. High consumers of game meat are at particular risk of [cardiovascular and chronic kidney disease](#).

Companion animals impacts: Pet foods containing game meat has been [found](#) to contain exceptionally high levels of lead.

Livestock impacts: [Livestock is put at risk](#) when feeding on ground that is or has been shot over, either through direct ingestion of shot when feeding e.g. for poultry or cattle, or within contaminated vegetation. Beyond economic losses to farmers, exposures can result in food safety issues and [supermarket food recall](#).



Some of the pathways to poisoning from lead shot

The non-toxic ammunition solution

Effective and available alternatives for all shooting needs: A wide range of non-toxic alternatives to [shot](#) and [bullets](#) exists but regulation is needed to ensure full transition to their use and guarantee of markets for ammunition manufacturers.

The main barriers to transition to non-toxic ammunition

Socio-political not technical barriers: The development of non-toxic alternatives for every shooting type mean that the barriers to transition are no longer technical. It is [socio-politics and vested interests](#) which have repeatedly used spurious arguments and caused legislative delays allowing continued poisoning to people, wildlife, pets and the wider environment.

Current regulations and voluntary agreements on the phase out of toxic lead ammunition have failed

Partial regulations are still failing: There remain high levels of non-compliance with current wetland-focussed regulations in countries surveyed and lead shot can still be used legally in most areas across Great Britain. A recent 2024 [paper](#) by University of Exeter/WWT shows that ~70% of ducks are still shot illegally with lead in England, more than two decades after the partial regulation was introduced.

Voluntary measures have failed: After four years, the [voluntary phaseout](#) of lead shot for hunting introduced by nine UK shooting and countryside organisations in 2020 is having virtually [no effect](#), despite the huge, sustained cost to wildlife and human health. [Research](#) published in 2024 by the University of Cambridge found that 93% of pheasants destined for human consumption were killed using lead ammunition in the 2023/24 season, despite the industry pledge to phase out the poisonous shot.

Full regulation has proved to be most effective: [Evidence](#) from Denmark, where a full ban on sale and use of lead shot has been in place since 1996, shows good compliance with the law.

Our key asks for the UK Government:

A need to support and strengthen the proposed UK REACH restriction to ensure a swift and complete ban on lead ammunition, both shot and bullets

Overall, we believe that the HSE restriction proposal will reduce lead ammunition pollution and poisoning in GB. In particular, we support the following:

- Ban on the sale and use of lead shot for live quarry and target shooting
- Ban on the use of large calibre lead bullets for live quarry and target shooting, with associated labelling requirements and the reclassification of 6.17mm as the cut off for calibre size.
- No derogation for humane killing.

However, the restriction proposal as it stands has limitations which will inhibit nature recovery and pose continued health risks to people. To rectify this, we strongly urge decision makers to strengthen and speed up the restriction by the following amendments:

1. Shorten the proposed transition periods for restrictions on lead shot and large calibre lead bullets

- a) **Lead shot: the transition period should be shortened from 5 years to the originally proposed 18 months for the restriction of sale and use of lead shot for live quarry shooting and target shooting.**

Given the efficacy and availability of non-toxic shot types, the original HSE restriction dossier proposed an 18 month transition period which would have coincided with the voluntary [target proposed](#) by the nine main shooting and countryside organisations. However, after a vociferous consultation (the scale of which caused delay and apparently required additional [cost](#) via additional staff being employed/redeployed by HSE/Environment Agency), this was increased to 5 years. A 5 year transition period for phasing out lead shot would culminate in an additional *35,000 tonnes (at the very minimum)* of toxic lead ammunition entering the environment. This is a conservative estimate which assumes legislation comes into place in 2029 i.e. at the earliest opportunity. Furthermore, this assumes that illegal use of lead shot will not continue which is extremely unlikely given the [high levels](#) of non-compliance with current regulations recently and consistently recorded while lead shot remains on the market.

Benefits of an 18 month rather than 5 year transition period

Harm could be reduced to the following receptors (3.5 years of annual data):

- Removal of risks of IQ deficits (and the personal and societal costs that incurs) to ~10,000 children annually
- Soils saved from a *minimum* of 24,500 tonnes of lead (based on the HSE restriction proposal) though this figure is likely to be [far higher](#) if the published [number of birds shot each year](#) is correct
- Up to [350,000 waterbirds](#) prevented from being poisoned to death – accepting environmental contamination with lead shot will persist for years to come
- >1 million waterbirds prevented from suffering [welfare costs](#) and sub-clinical harms including being exposed [to immune-suppressing lead](#) during an unprecedented epidemic of avian influenza in wild birds which is having [significant conservation consequences](#).
- Fewer companion animals being exposed to lead shot in hunting households or those being fed commercial [pet food](#) containing game birds.

Non-lead shot is effective and available

A 5 year transition is unnecessarily prolonged – it is now widely acknowledged that *effective* and *safe* non-toxic shot alternatives are [sufficiently available](#) (in particular steel which is most commonly used) to meet the needs of a swift transition. BASC’s East Regional Director [confirmed](#) this in relation to the commitment by the nine UK main shooting and countryside organisations which called for a ban on the use of lead shot for all live quarry shooting by 2025:

“At the time of the statement back in 2020 there was much deliberation as to whether steel shot was effective. Conversations also centred around the capacity of manufacturers to develop the cartridges needed at the rate required, and if old guns would become obsolete. In response, we have overcome all of these challenges. For example, modern side-by-sides suitable for high performance steel are now being made, proofed with a fleur-de-lis, giving users a greater choice of cartridges. There are now more than 140 types of sustainable cartridge available, ranging from 12 gauge to 16 gauge. Smaller gauge cartridges are on the horizon, and bismuth and alternative shot products are suitable for the few guns that cannot use steel shot. This is great progress, and the cartridge manufactures must be commended for the efforts made and their continued innovation.”

A sooner certainty for retailers and industry

Purveyors of game meat need urgent certainty of supply of game shot with non-toxic ammunition. [Food retailers](#) are increasingly moving away from stocking and selling lead-shot game due to the serious risks it presents to public health. This trend is set to grow particularly as public awareness increases. Tom Adams, former Managing Director of the British Game Alliance [states](#):

“The BGA believes the transition away from lead is necessary in order to continue a viable market for game meat. We support the phase out of lead, as the FSA and subsequent food industry move in the direction of a lead free environment.”

A sooner deadline provides certainty to ammunition manufacturers who are already anticipating change given both the UK and EU processes.

- b) Large calibre lead bullets: The transition period should be shortened from 3 years to the originally proposed 18 months for the restriction of use of large calibre lead bullets (defined as bullets of diameter >6.17 mm).**

Given the efficacy, availability and already common usage of non-toxic large calibre bullets types (i.e. .243 calibre and above), the HSE restriction dossier originally proposed an 18 month transition period. The subsequently proposed 3 years is simply not needed.

As with shortening the transition period for lead shot, a similar period for large calibre bullets would reduce harms more quickly to raptors and scavengers and consumers of venison and wild boar. Again, as above, certainty would be provided sooner for game meat retailers and ammunition manufacturers.

2. Commit to swift introduction of the regulations needed to enact the restriction

Tortuous timelines on what should be a straightforward issue

The road to banning lead ammunition has been lengthy and expensive in terms of the poisoning wreaked and the expenditure on processes which have either failed or been ignored. The [first UK recommendation](#) to ban lead shot was made by the Royal Commission on Environmental Pollution in 1983. Since that time there has been, *inter alia*, introduction of partial regulations (which have failed) and various Defra expenditures related to [methods](#) and [measuring](#) of compliance. Most recently a five year stakeholder process established by Defra and the Food Safety Authority saw the recommendations to ban lead ammunition ignored by the previous Government (Liz Truss' 2016 letter, from her time as Defra Secretary of State, can be found [here](#)).

The UK REACH process is currently ahead of the parallel EU REACH process and swift and strong restrictions would show leadership to the rest of Europe on this issue. This would be fitting given the UK's disproportionately large tonnage of lead used due to the scale of intensive gamebird shooting in this country.

There is support for a swift transition to non-toxic ammunition

A [growing number](#) of public bodies (e.g. [NatureScot and Forestry and Land Scotland](#)), natural resource agencies (e.g. Forest Enterprise England), food retailers (e.g. [Waitrose](#), [M&S](#)), [shooting and countryside organisations](#) and conservation NGOs (e.g. RSPB, WWT) have already committed to using non-lead ammunition. Experienced hunters have [confirmed](#) that a swift transition is practically possible and for many reasons desirable.

As the general public's awareness of the issue of lead ammunition in food is growing, lengthy transition periods such as the currently proposed 5 years (taking us to 2029+) risk falling sales in game meat and pet foods, and reputational harms by those continuing to sell lead-contaminated products. As an example, [Waitrose suffered a reputational hit](#) when attempting to source non-lead-killed products but failing when their supply chain could not be assured.

3. Restrict small calibre lead bullets with a 5 year transition period

The original HSE restriction dossier included a ban on small calibre bullets with a transition period of 5 years. This should be reinstated to the restriction proposal for the following reasons:

Small calibre non-lead bullets are available

There is a wide range of bullet types and the lack of good non-toxic alternatives to rimfire bullets (where the primer is in the rim rather than the more common centre of centrefire bullets) has allowed the creation of an inaccurate narrative of ‘small calibre alternatives are not available’. [Product availability](#) of non-lead rifle ammunition in a wide range of calibres is large in Europe and is suited for all European hunting situations. Furthermore, the availability of alternatives is expected to increase after legislation restricting the use of lead ammunition comes into force and ammunition manufacturers are given this market certainty. As [Kanstrup and Thomas](#) (2019) suggest:

“The collective experience of Denmark, Canada and the USA indicate that the demand for non-lead products will be stimulated by any intergovernmental initiatives to regulate lead ammunition for hunting and target shooting, especially when such initiatives are accomplished through well enforced national regulation.”

The use of all lead bullets for hunting has been illegal in [California](#) since 2019 and in Denmark (for centrefire bullets), since 2024, with the latter legislation [supported by the Danish Hunters' Association](#).

The 5 year transition period as originally proposed would give sufficient time for even further development of existing and new ammunition types.

Benefits of banning small calibre lead bullets

A ban on small calibre lead bullets would reduce further, unnecessary inputs of toxic lead into the environment and associated risks to people and scavengers/predators through consumption of contaminated rabbits, squirrels, foxes and ‘pests’. We believe this would be proportionate.

A ban on both small and large calibre lead bullets would simplify legislation. Importantly, it will also enable clear public health messaging, be that from FSA, NHS or other public health bodies. For example, communicating to the public that lead poses a risk for some lead shot game animals (e.g. pheasants, partridge, venison) but not for others (e.g. rabbits) will be complex.

A restriction on small calibre bullets will enable the UK to fulfil its international commitments as signatories to numerous international conventions, including UNEP Convention on Migratory Species which obliges the UK to ban lead bullets for hunting (CMS Resolution 11.15). In addition, it would boost the Government’s efforts to meet the Environment Act target to halt the decline in species abundance, including threatened raptors, by 2030 and would be in line with the requirements of the Government’s Environmental Principles Policy Statement.

Not restricting small calibre bullets in the UK risks undermining and weakening the parallel EU process and disincentivises research and development by the ammunition manufacturers.

There is support for banning small calibre lead bullets

The European Hunting Experts are [calling for a ban on lead bullets](#) for live quarry shooting due to their concerns about risks posed by lead and the problems arising from the lack of sustainability of hunting when using lead ammunition. Thus, they argue that change is desirable and that it is in every hunter’s best interest to switch to non-lead ammunition.

The UK's biggest shooting organisation backs a restriction on bullets for live quarry shooting. During the original public consultation on the restriction report, [BASC said](#):

“Having assessed the evidence, we concluded that restrictions on the sale and use of both lead shot and expanding lead rifle ammunition for live quarry shooting would be effective at eliminating those proven risks.”

Following various scientific consensus statements, the recent [Open Letter](#) from >80 *global lead scientists* from the fields of medicine, toxicology, veterinary medicine, and wildlife health call for a ban on lead bullets, including small calibre, for hunting. To fail to propose a ban for small calibre lead bullets suggests a severe disconnect at the science-policy interface.

4. Further strengthen the proposals by the following additional amendments:

a) No derogations for the use of lead ammunition by athletes or at particular sites for target shooting.

Any derogation introduces a level of complexity and a higher risk of non-compliance with proposed restrictions culminating in a heavier enforcement burden.

The proposed derogations for target shooting stem from a reluctance on behalf of the sports shooting governing bodies to change the rules on competitive sports shooting. Simple rule changes to allow use of non-toxic ammunition would reduce lead inhalation risks to shooters, reduce environmental contamination, reduce clean-up costs to shooting site owners and prevent exploitable loopholes allowing lead ammunition to remain on the market. Pressure from multiple sources, including UK governmental decision makers would encourage the rule changes that are hampering both UK and EU REACH processes.

Even with the proposed cap on rounds of lead shot for athletes (which in theory is a pragmatic means to limit lead inputs), an unacceptably high tonnage of lead shot will enter the environment, with high exposures (given the quantities of lead used for target versus quarry shooting) to wildlife particularly likely at shoots situated in or adjacent to 'natural' areas. There will be leaching of lead from sites into soils and water courses. Where lead falls on agricultural land adjacent to shooting grounds, it may be taken up by crops and grazing animals.

b) Mandatory risk management measures at shooting ranges

We believe that lead ammunition should not be used for target shooting. Should regulation permit the derogations proposed by the HSE, at the very minimum, we propose mandatory risk management measures at sites where lead shot and bullets are used for target shooting. This should include a requirement for annual recovery of 90% of deposited lead as originally suggested in the HSE restriction dossier. This mirrors the opinion of the European Chemicals Agency (ECHA) under EU REACH which considers that >90% recovery for both lead shot and bullets is needed and achievable.

Risk management measures will prevent the continued pollution of soils and watercourses. Without remediation, domestic animals (e.g. [farmed free-range ducks](#)) and wildlife using habitat within or adjacent to shooting ranges remain at risk of being exposed and poisoned following exposure to lead ammunition.

Summary

To support the Environment Act targets and deliver significant benefits for people, biodiversity, the broader environment, livestock, companion animals, retailers, and food safety, we strongly urge the Government to swiftly implement the HSE restriction proposal as currently drafted, with the following key amendments to strengthen its impact:

- a) Shortened transition period for lead shot from 5 years to 18 months as originally proposed.
- b) Shortened transition period for large calibre bullets from 3 years to 18 months as originally proposed.
- c) Introduction of a ban on use of small calibre bullets with a 5 year transition period.
- d) No derogations for the use of lead ammunition by athletes or at particular sites for target shooting. Pressure on the shooting sports governing bodies is required to change their rules on requirement for use of lead ammunition.
- e) Should derogations for athletes and for target shooting at selected sites be supported, we urge the introduction of mandatory risk management measures to ensure a minimum of 90% recovery of deposited lead at target shooting sites.

These actions are critical to achieving the Government's environmental commitments and protecting both biodiversity and public health. We urge swift and decisive action to ensure a lead-free future.

Now is the time to help end the era of lead ammunition for good.



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