



LETTERS

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EU Court: Science must justify future hunting

For strictly protected species in Europe, the 1992 Habitats Directive requires EU Member States to implement conservation actions that include a ban on their capture and killing (1). Several Member States have creatively evaded this requirement to allow annual hunting of some of these species, including wolf (*Canis lupus*), bear (*Ursus arctos*), and lynx (*Lynx lynx*), by exploiting provisions that allow exceptions to strict protection (2). The Directive allows limited exceptions to achieve particular goals when there is no satisfactory alternative and making the exception would not harm the conservation status of the species' populations. A recent decision by the Court of Justice of the European Union (CJEU) (3) makes it much harder for Member States to interpret these provisions to allow hunting and rightly centers future policy decisions on the results of scientific research.

The case, initiated by the nongovernmental nature-protection organization Tapiola, challenged Finland's justification of wolf hunting as a conservation measure needed to prevent poaching (4). The CJEU ruled that the prevention of poaching is a legitimate conservation goal that might justify exceptions from strict protection. However, it also interpreted the associated conditions in such a strict manner that in

practice it will be difficult to justify hunting for this purpose (3).

This ruling lays out important limitations on hunting strictly protected species throughout the EU (3). First, Member States cannot allow hunting for conservation purposes unless rigorous scientific studies indicate that hunting would have a positive net impact on the strictly protected population. Second, exceptions from strict protection may be used only as a last resort for achieving their claimed purposes. The Member State must be able to demonstrate, with reference to scientific sources, that there is no other satisfactory alternative. Third, the CJEU emphasized that the precautionary principle prevents Member States from making exceptions to strict protection if the best available science leaves uncertainty as to whether the conservation status of populations involved would be negatively affected.

This decision makes explicit the need for good science to inform environmental protection laws. Examples of how conservation scientists and others can contribute include modeling the demographic and ecological impacts of exemptions and identifying scientifically grounded alternative solutions to hunting. A greater awareness of the legal questions that require the help of scientists to answer could result in more policy-relevant research agendas and improved environmental decision-making.

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An EU decision will make hunting strictly protected species such as the lynx more difficult to justify.

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COMPETING INTERESTS

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Time to ban lead hunting ammunition

Despite evidence that lead is an extremely neurotoxic and persistent element (1), its use in hunting ammunition continues. The European Chemicals Agency (ECHA) is conducting an investigation into ammunition-derived lead's risk to wildlife and humans, but its results will take time (2). Individuals and organizations must take immediate action—independent of governmental legislation—to stop the use of lead in hunting ammunition.

ECHA estimates that 35,000 tons of lead is released into Europe's environment each year, including 5000 tons dispersed into wetlands (3). Ammunition-derived lead has caused suffering and population declines in the region's birds (4, 5). Losses due to lead ammunition cost USD1.1 billion per year in terms of lost wildlife and biodiversity, environmental health, and socio-economy as measured by hospitalizations and loss of IQ (6). Yet, EU legislation is rare, and only Denmark and the Netherlands have enacted total bans on lead shot (7).

In the United States, documentation of the adverse effects of ammunition-derived lead on wildlife dates back to the 1870s (8). Evidence of millions of water bird deaths annually (9) resulted in a phase-out of lead

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