Conservation Letters

WILEY

Conservation Letters
Open Access
A journal of the Society for Conservation Biology

REVIEW OPEN ACCESS

Increasing Targeted Poaching of Lions for Trade Has the Potential to Pose an Existential Threat to the Species in Africa

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Received: 11 July 2025 | **Revised:** 20 November 2025 | **Accepted:** 26 November 2025

Keywords: bones | claws | illegal wildlife trade | law enforcement | *Panthera leo* | poaching | skins | trade networks | wildlife crime

ABSTRACT

Lions (*Panthera leo*) in Africa are targeted for the illegal wildlife trade, driven by demand in African and Asian markets, for their body parts. This threat is distinct from traditional drivers of lion decline such as prey depletion, habitat loss, and persecution and is poorly understood, underreported, growing, and prone to the influence of organized transnational crime. Here, we synthesize the current state of knowledge on targeted poaching for lion parts, identify key conservation and legal challenges, and propose a coordinated response agenda, drawing on examples from around the continent. We call for consideration in six critical areas: improving in situ protection, effective engagement of communities in conservation interventions, improved understanding of trade dynamics, disrupting the trade via multiple mechanisms, strengthening legal frameworks, and demand reduction. We recommend a proactive approach to prevent entrenchment of poaching and illicit markets and avert severe impacts on lion populations. Without coordinated action to address targeted poaching, there is a significant risk of lion population declines and extirpations. Urgent action is needed to acknowledge and address this issue, because it represents a potentially existential threat to the species.

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1 | Introduction

1.1 | Growing Threats to Lions

Human activities have exerted profound pressures on wildlife populations (Andermann et al. 2020; Ceballos et al. 2017), with impacts now far exceeding those observed over the past five decades (Ceballos et al. 2017; IPBES 2019). Globally, animals are harvested for trophies, ornaments, food, and traditional medicine, as well as spiritual and cultural artifacts (Green et al. 2022; Lee et al. 2020). The intensifying scale of these uses is contributing to widespread declines of numerous species (IPBES 2019; Mudumba et al. 2021).

Lions (*Panthera leo*) have undergone one of the largest range declines of all carnivores (Wolf and Ripple 2017) and face threats, including habitat loss and fragmentation (typically considered the most significant), and prey depletion. In addition, lions suffer from direct mortality due to retaliatory persecution, cultural hunting, bycatch in snares, and unsustainable or poorly regulated trophy hunting (Bauer et al. 2020; Nicholson, Roxburgh, et al. 2025). Inside protected areas (PAs), the biggest threat to lions has been found to be prey depletion and snaring due to the bushmeat trade (Lindsey et al. 2017).

There are >25,000 adult and subadult lions remaining, and the species only occupies ~6% of its historic African range (Nicholson, Bauer, et al. 2025). There is, however, cause for optimism for lion conservation due to the commitment of African governments, communities, civil society, and non-governmental organizations (NGOs) to wildlife conservation. Many African countries have set aside significant space for PAs that could support three to four times the current lion number if they were adequately funded and managed (Lindsey et al. 2017; Lindsey et al. 2018). The challenge will be ensuring the persistence of lions and other wildlife through the next few decades, as human and livestock populations continue to expand throughout Africa, where governance remains weak in many countries, political instability is widespread, and funding for conservation remains critically constrained (Lindsey et al. 2022).

1.2 | Current Strategies to Conserve Lions

Several mitigation strategies have been developed to address the threats faced by lions, some of which are proving effective (IUCN SSC Cat Specialist Group 2018). For example, in under-resourced PAs, collaborative management partnerships (CMPs) between state wildlife authorities and/or communities and NGOs can markedly improve conservation outcomes (Desbureaux et al. 2024; Lindsey et al. 2021). To mitigate the threat of lion killings, several organizations working with local communities have developed a set of tools to address human–lion conflict and promote coexistence (Beck et al. 2019; Leflore et al. 2020). Similarly, a variety of regulatory instruments exist to address issues of wildlife trade (Almeida et al. 2025). For example, internationally, lions are listed under CITES Appendix II (with some populations in Appendix I), regulating trade through permits and monitoring. National legislation in most range states prohibits unauthorized trade, regulates or prohibits sport hunting, and prohibits the poaching of lions. Law enforcement initiatives, including specialized anti-poaching and anti-trafficking units, aim to prevent illegal trade.

2 | Targeted Poaching of Lions

Despite the encouraging progress in addressing long-standing threats to lions, an emerging threat has the potential to undermine conservation gains. Over the past decade, reports of targeted poaching of lions for their body parts have become more frequent in parts of Africa (Almeida et al. 2025; Nicholson 2024). We refer to it as "poaching" as the killing of lions for these purposes is almost always illegal (Carter et al. 2016).

The targeted poaching of lions is primarily driven by a combination of local and transnational demand for body parts used for traditional medicine and other cultural practices, and much of this demand is met through the illegal wildlife trade (IWT) (Coals et al. 2022; Williams et al. 2017a). There has been some level of trade and use of lion body parts for millennia (Coals, Dickman et al. 2020; Williams et al. 2025), but there are indications of shifts in the nature and extent of this trade. Although most lion parts are likely sourced opportunistically—from natural deaths and indirect anthropogenic causes of mortality—direct, targeted poaching of lions for their parts is becoming increasingly prevalent. As we discuss below, the ongoing and expanding cultural use of lion parts within Africa (Coals et al. 2022; Williams et al. 2025), combined with persistent demand in Asia, has coincided with an escalation in the scale and intent of poaching to supply those products (Everatt, Kokes, et al. 2019; Everatt, Moore, et al. 2019). The poaching of lions for body parts represents an intensifying challenge to lion conservation, compounding other threats, many of which are also growing in intensity (Almeida et al. 2025; Braczkowski et al. 2024).

Below, we explore aspects of lion body part trade systems that demonstrate the vulnerability of lions to trade-related poaching, the extent and complexity of lion trade/poaching systems, and provide examples that indicate this should be considered an established threat.

2.1 | Lions Are Vulnerable to Poisoning

Lion social structure, particularly their tendency to hunt and feed communally, and their attraction to meat baits, makes them particularly vulnerable to poisoning (Dunford 2022), as it means that one poisoned bait is likely to kill multiple individuals. For example, there have been numerous incidents in the last 2 years where giraffes (*Giraffa camelopardalis*) have been killed and used as bait to attract lions (Chase and Roodbol, personal communication 2025). This deliberate method of luring lions using carcasses demonstrates a level of forethought and coordination characteristic of experienced and organized poaching networks (Chase, personal communication 2025). Poison baits can kill multiple individuals in a single event with limited risk to the poachers, especially in remote areas where detection is low (Dunford 2022). This method causes significant collateral damage as other scavenger species are severely affected (Ogada 2014). For example, in 2019, four lions were poisoned, and, in this event, a black-backed jackal (*Lupulella mesomelas*), 70 white-backed

vultures (*Gyps africanus*), and a steppe eagle (*Aquila nipalensis*) were also killed in the Central Tuli Area of Botswana (Vissia, personal communication 2021).

2.2 | Demand for Lion Body Parts Is Diverse and Complex

The demand for lion body parts is not driven by a single factor or confined to a single geographic region—it is diverse, multifaceted, and highly dynamic, driven by several forms of demand: cultural, spiritual, and commercial, emanating across countries and continents. Neither is demand restricted to a single body part or suite of body parts.

This diversity and complexity of demand for lion body parts makes it particularly difficult to monitor and control, with the spectrum of trade organization ranging from locally uncoordinated to highly organized networks that transcend international boundaries (Outhwaite 2018; Williams et al. 2025). The extent and scale of the varied uses of lion body parts are poorly understood, and both trade and use do not constitute a single, easily definable system (Arias et al. 2024; Williams et al. 2025). Nevertheless, a variety of examples from across the continent demonstrate broad-scale importance of lion body parts in cultural-spiritual traditional belief systems.

2.2.1 | Demand for Lion Parts in Africa

A study by Williams et al. (2025) found culturally motivated usage of lion body parts in at least 37 African countries. Demand for body parts occurs within and across national borders (Outhwaite 2018) and is deeply embedded in traditional belief systems and cultural practices (Coals et al. 2022; Williams et al. 2025). Lions are revered for their perceived attributes—strength, power, protection, and nobility—and their parts are used to convey these characteristics. Coals et al. (2022) found that in South Africa, lion parts hold cultural significance in connection with the *Umndawu* ancestral spirit and are commonly used by traditional healers. In Uganda, lion fats and oils are traditionally used in cultural spiritual practices, and lion skin is a potent symbol of supernatural power and royal authority (Claessen 2015; Tumusiime 2021; Williams et al. 2025). In Western Tanzania, lion parts are incorporated into amulets and rituals, threatening local lion populations (Borgerhoff Mulder et al. 2019).

In West Africa, cultural beliefs have fused with growing urban demand, leading to commercialized spiritual services involving lion derivatives (Panthera 2024). Market surveys highlight the scale of this trade: despite Senegal's wild population numbering only 35–45 individuals, preliminary estimates suggest that 32–169 lions are needed annually to meet domestic demand (Panthera 2024). Molecular analysis further revealed that seven lion skins seized from traffickers in 2019 originated from the Benoué Complex in Cameroon (Figure 1; Panthera, personal communication 2024). Similarly, in Ghana and Ivory Coast—where lions have been extinct for over two decades—lion parts were still present in more than 25% of market stalls surveyed (Drouilly et al. 2023; Horion et al. 2025).

FIGURE 1 | Lion skins in a market in Dakar, Senegal. *Source:* Photo credit: Philipp Henschel, Panthera.

2.2.2 | Demand for Lion Parts in Southeast Asia

In Southeast Asia, the demand for lion body parts appears to be driven primarily by their perceived cultural-medicinal value and occasionally for use as personal adornments (Williams et al. 2015). This demand for lion parts is at least partly related to the demand for tiger (*Panthera tigris*) parts (Deng 2015; Williams et al. 2015). In the early 2000s, evidence emerged of lion bones, teeth, and claws being shipped to Southeast Asia (Vietnam, Thailand, Laos, and China) from South African lion breeding farms as substitutes for tiger bones in traditional-cultural medicinal practices (Williams et al. 2015; Williams et al. 2017a). This substitution occurred when the trade in tiger parts in Asia was restricted (Williams 2015; Williams et al. 2017a).

A growing Southeast Asian diaspora in Africa, coupled with strengthening trade links between many African countries and Asia, may further facilitate the movement of lion parts between the two continents. The repeated reports of arrests of Southeast Asian nationals at African ports attempting to smuggle lion body parts (TRAFFIC Wildlife Trade Portal) support these illegal trade links. Furthermore, reports have been made of Chinese industry workers sourcing lion bones from local communities (e.g., in the W-Arly-Pendjari Complex, Benin [Panthera, personal communication, 2024]).

The relative importance of African versus Asian demand and how they influence one another remains a knowledge gap (Panthera 2024). Understanding the motivations and mechanisms underlying each consumer group is vital for designing effective interventions to reduce demand and disrupt trade (Coals, Dickman et al. 2020; Moorhouse et al. 2020).

2.3 | Trade and Supply Chains Appear Increasingly Organized

Some aspects of the lion part trade appear to be increasingly well organized and substantial, rather than opportunistic and small-scale, though we note the potential for observational biases associated with increased detection effort (Dobson et al. 2020).

FIGURE 2 | Several broad actors can be identified in the supply chain of the illegal trade of lion body parts. However, more in-depth analysis of the supply chain and its actors is urgently needed. *Source:* Actors as defined by Wildlife Crime Prevention.

For example, 17 lion skulls were seized in Lusaka, Zambia in 2021 (Wildlife Crime Prevention, personal communication 2025), enroute from South Africa, and another case of over 300 kg of lion body parts seized in Maputo, Mozambique in 2023 (Mozambique Wildlife Alliance, personal communication 2025). Although it is likely that such quantities of body parts originated from captive-bred South African lions, this suggests the presence of cross-border organized crime. The captive breeding of lions occurs at scale in South Africa (and to a much lesser extent elsewhere) and has resulted in the production of body parts (skeletons, including teeth and claws) for trade, which was permitted under a legal quota until 2018. Although this supply may influence market dynamics, its effect on overall demand for wild-sourced lion parts remains uncertain (Coals, Burnham, Loveridge, et al. 2019; Coals, Burnham, Johnson, et al. 2019) and further studies are required to clarify these relationships.

It is apparent that a proportion of lion body part trafficking is linked to the activities of transnational organized crime networks and is related to trade in elephant (*Loxodonta africana*) ivory, rhino (*Diceros/Ceratotherium* sp.) horn, and pangolin (*Phatagginus/Smutsia* sp.) scales (Phelps et al. 2016; Wyatt et al. 2020). As with other forms of IWT, the illegal lion part trade appears to involve a multitiered criminal structure with varying levels of organization (Wyatt et al. 2020). Although detailed mapping of illegal lion part trade supply chains is still lacking, the work of Wildlife Crime Prevention (www.wildlifecrimeprevention.com) and similar organizations in Southern Africa identified several broad categories of actors (Figure 2; Table S1). Convergence with other trades, especially in Southern and West Africa, has been observed (Williams et al. 2017a; Coals et al. 2022). This makes detection and disruption more complex and reinforces the need for intelligence-led interventions and coordinated enforcement responses (Arias et al. 2024).

2.4 | Captive Lion Trade and Lion Farming

Over the last few decades, the captive breeding of lions arose on a large scale on private land in South Africa (Williams and 't Sas-Rolfes 2019; Coals, Burnham, Loveridge, et al. 2019). Initially, the motivation for this was principally the opportunity to sell hunts of captive lions (Williams and 't Sas-Rolfes 2019; Coals, Burnham, Loveridge, et al. 2019). However, over time a secondary industry arose around the trade in lion parts from captive-bred animals (Coals, Burnham, Loveridge, et al. 2019). Between 2008 and 2017, there was considerable legal export of lion skeletons from South Africa, mainly to Southeast Asia (see Coals, Burnham, Loveridge, et al. 2019 and Williams et al. 2021). However, in 2016, there was a decision by CITES to impose a quota; on lion part exports from South Africa in 2017–2018, which was subsequently reduced to zero in 2019 (Williams et al. 2021). Some commentators suggest that by opening up trade in lion parts with Asia, lion farms had a role in creating trade links between Africa and Asia around lion body parts that had not previously been in existence (Williams and 't Sas-Rolfes 2019). Other observers argue that restrictions on South Africa's captive lion breeding industry and the associated legal trade in lion body parts have compelled traders to increasingly obtain products from wild populations through poaching (see Coals, Burnham, Loveridge, et al. 2019 and Hiller and MacMillan 2021 for further analysis).

The relationship between changes in the volume of legal trade in lion parts and changes in the extent of poaching of wild lions is not clear, though patterns observed in Mozambique may offer some insights. For several years, Mozambique has been the epicenter of lion poaching in Southern Africa, with some of the country's populations having been severely affected (Almeida et al. 2025; Everatt, Kokes, et al. 2019). Between 2010 and 2023, 326 human-related mortality events involving 426 lions were recorded in Mozambique, of which 25% were cases of deliberate poaching for

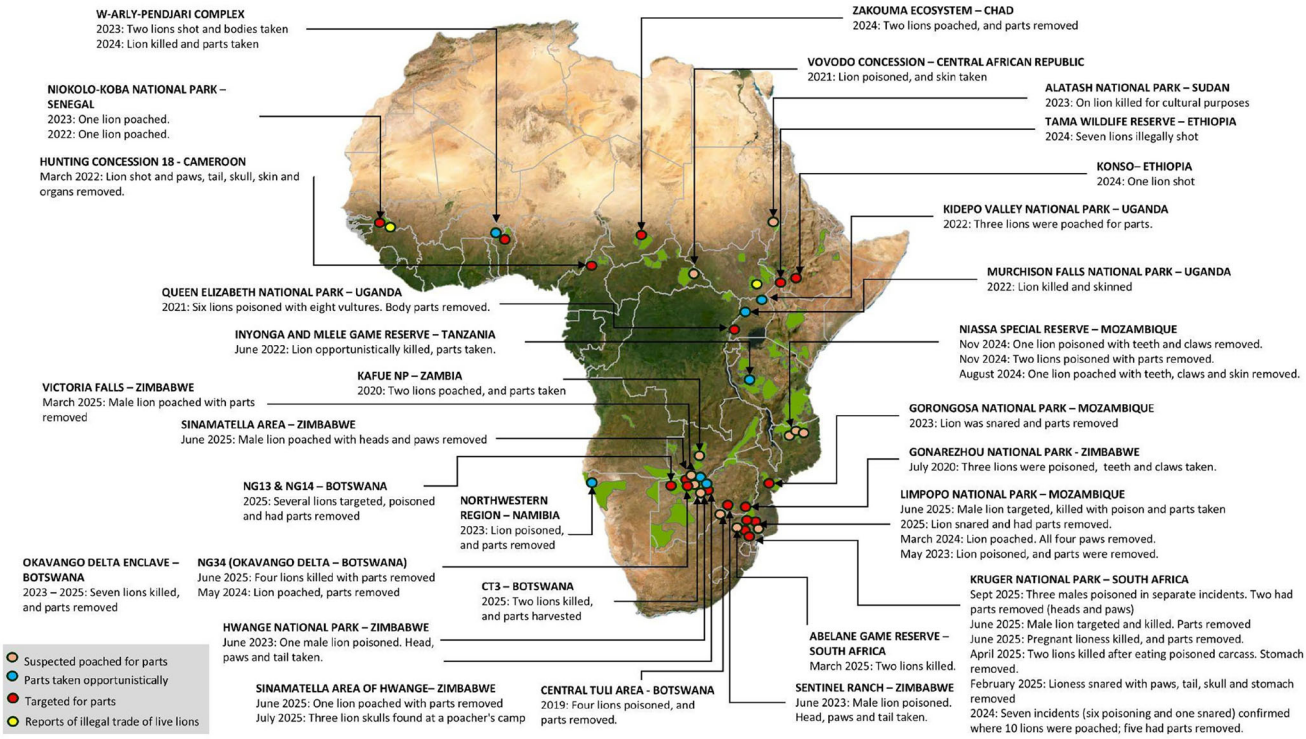

FIGURE 3 | Recent (January 2019 to September 2025) lion mortalities across Africa involving the removal of body parts (for incident details and references, see Table S1). This is not an exhaustive list of incidents that have occurred but is a summary of the incidents contributed to this study to illustrate the severity and geographic scope of the threat to the species. Lion range is depicted in green (Nicholson, Bauer, et al. 2025).

lion body parts (Almeida et al. 2025). Poaching for lion body parts rose dramatically, from an average of one known case of lions being poached per year in 2010–2017 to seven known cases per year during 2018–2023 (Almeida et al. 2025).

3 | Geographic Scope of the Threat

In recent years, incidents of targeted poaching for lion body parts appear to be increasing in frequency and geographic scope across the continent, with reports emerging from both long-affected regions and new localities (Figures 3 and 4; Table S1). Determining the specific motive behind lion poaching incidents is often challenging. In many cases, body parts may be taken opportunistically—for example, from lions caught as bycatch in snares set for bushmeat. However, such instances remain concerning, as they indicate a recognized and potentially growing value for lion parts in trade.

Although lion poaching in Mozambique is relatively long-standing, it appears to be spreading into neighboring countries, especially in PAs adjacent to Mozambique. For example, in the Kruger NP in South Africa, there has been an increase in lion poaching in the last few years, and the population is severely depressed in the northern 20% of the park (Roodbol et al. 2024; Stoddard 2023). Recent surveys suggest that the lion population in Northern Kruger has declined by as much as 63% in the last 18 years (Roodbol et al. 2024). Anecdotal accounts assume that this decline is attributed to a rise in the targeted poaching for parts, along with an increase in incidental lion mortalities due to snaring bycatch (Roodbol et al. 2024) (Figure 4).

Lions in Gonarezhou NP (Zimbabwe) have also been affected. Gonarezhou is well-managed as a partnership between the Zimbabwe Parks and Wildlife Management Authority and Frankfurt Zoological Society, through the Gonarezhou Conservation Trust (GCT). Gonarezhou's lion population has potentially been affected by poaching, as a lion survey in 2021 revealed a surprisingly low number of lions in the southern portion of the park (Mandinyenya et al. 2022). Though the exact causes of this are unknown, it is possible that, like in Kruger NP, targeted lion poaching is a contributing factor. Since then, GCT has instigated focal lion monitoring to help protect the lion population and allow for a rapid response in the event of poaching or other threats. This example shows that even in the best resourced and managed parks, lions may be vulnerable to poaching without targeted monitoring and protection. In 2020, Coals, Dickman et al. (2020) did not find evidence to suggest poaching for parts was a threat in Hwange; however, in subsequent years this threat has emerged and may be potentially increasing (Figure 3).

Over the past 8 years, transnational poaching syndicates operating across northern Botswana have primarily targeted elephants and rhinos (UNODC 2024). However, there has been an alarming shift towards lions for their body parts, driven by growing demand in IWT (Chase, personal communication 2025). Recent incidents in Botswana (Figure 3) coincided with a spate of elephant poaching events in the same region, strongly suggesting coordinated activity by foreign poaching syndicates crossing into Botswana. The simultaneous targeting of both elephants and lions indicates a diversification of illicit operations, likely driven by rising market demand for multiple wildlife products (Chase, personal communication 2025).

FIGURE 4 | (A) Male lion was lured in with meat where it was caught in a snare in Kruger National Park in June 2025 and several parts were removed. (B) Giraffe meat used to lure carnivores. In this case, a pregnant lioness was killed and had several parts removed (Kruger National Park, June 2025). (C) Poachers in Kruger chased lions off a kill, then laced the bait and harvested parts from lions that died (June 2025). (D) A pride of lions were poached in NG34 (Botswana) in June 2025; all had parts removed (Okavango Express, 2025). (E) Over 300 kg of lion body parts were seized in Maputo in 2023, along with body parts from many other species. *Source:* Credit: Mozambique Wildlife Alliance.

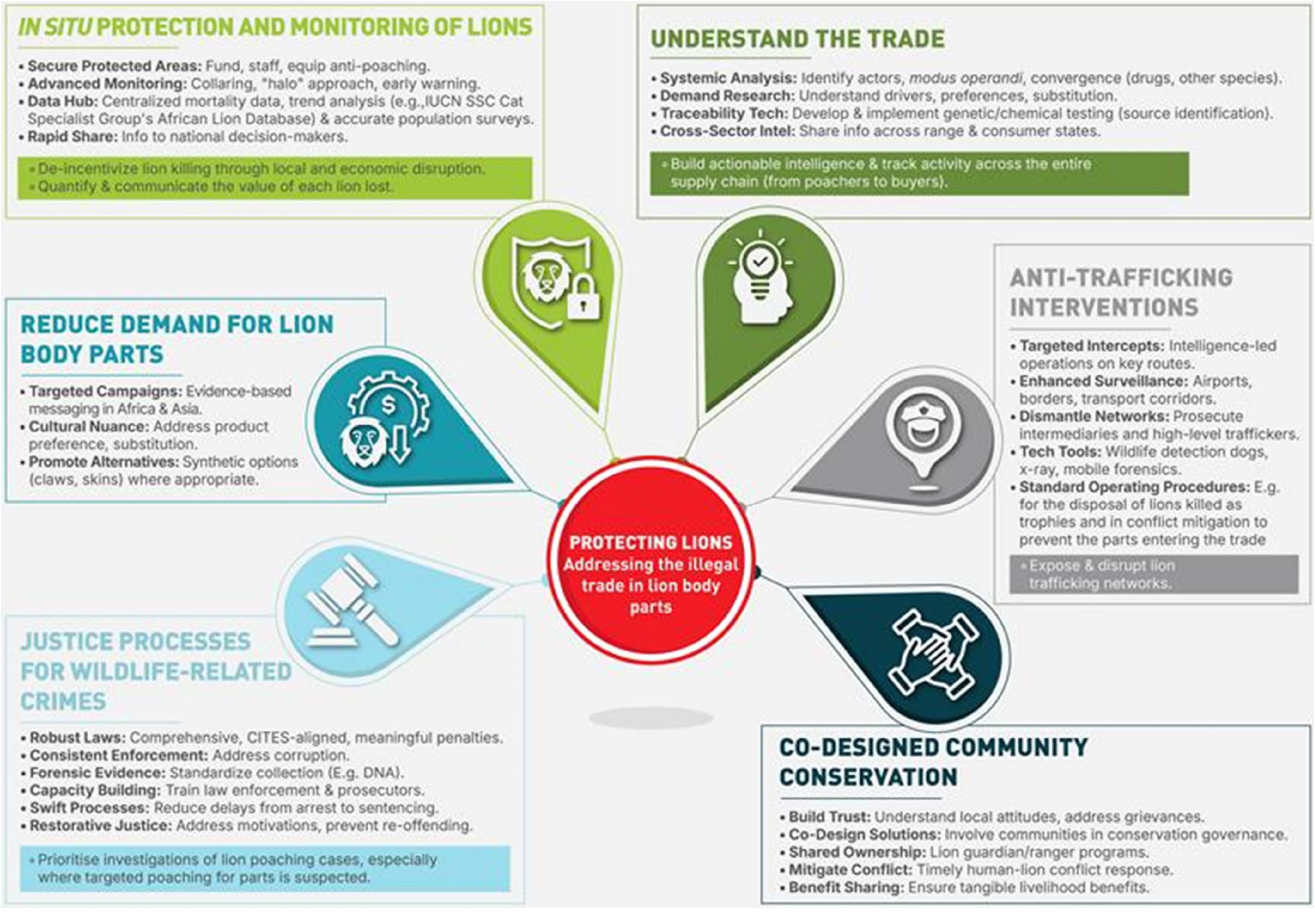

FIGURE 5 | Six critical actions have been identified to reduce the threat of targeted poaching for lion body parts for the illegal wildlife trade. Although these actions are critical for long-term success, several immediate interventions should be implemented and are depicted in a dashed box.

Lion and leopard (*Panthera pardus*) products are widely sold and used across Senegal, with demand steadily increasing (Panthera 2024). A questionnaire survey conducted by Panthera found that 79% of markets visited sold products from both species, and artisans reported rising demand (Panthera 2024). Estimates indicate that between 32 and 169 lions are killed annually to meet this demand, whereas counterfeit items are also sold to supplement supply (Panthera 2024). Although there is uncertainty about the origin of poached lions, the W-Arly-Pendjari Complex is a possibility, with Nigerien hunters supplying skins to Senegalese vendors and Burkinabé itinerant vendors selling these products in Senegal's markets (Panthera 2024).

4 | Addressing Lion Poaching

Here, we discuss potential actions to address lion poaching (Figure 5). We do not intend for these to be prescriptive, but rather, we present a range of *proactive* subject areas that largely represent general responses to poaching issues. Although effectiveness in proactive interventions varies across contexts and species, our aim is to highlight priority exploratory measures and determine the efficacy of these interventions in future research. We recognize that similar interventions targeting other wildlife species have shown variable success in combating poaching and illegal trade and that there are instances of both successes and failures across a number of enigmatic species that are subject to high poaching pressures (such as rhinos (Mahatara et al. 2018; Chaudhry 2020), pangolins (Cooney and Challenger 2020), and elephants (Holden et al. 2018; Xia et al. 2025). Please note that we do not specifically discuss reinstatement of tradable captive-bred lion skeleton quotas as a means of poaching intervention. This issue is extensively debated in Coals, Burnham, Loveridge, et al. (2019); Coals, Burnham, Johnson, et al. (2019) and Hiller and MacMillan (2021), and further debate is beyond the scope of this article. The general approaches to tackling poaching discussed below have shown contextual successes (but also failures). Therefore, we advocate for concerted effort to systematically implement and test efficacy for contexts where lions are threatened by poaching.

4.1 | In Situ Protection and Monitoring

PAs must be adequately funded, staffed, and have the technical capacity to protect lions effectively (Lindsey et al. 2018). Comanagement agreements between NGOs and state wildlife authorities hold promise to improve the management of PAs (Lindsey et al. 2021), though many PAs still lack such support. In the context of increasing targeted poaching, general area management and anti-poaching may not be sufficient, and focused protection of lions may be needed. With adequate funding and expertise, lion-specific protection can be achieved through lion collaring and monitoring of prides and directing protection to the areas where they occur. This "halo" approach has been effective in some contexts, contributing to cub recruitment, and survival and population growth (Banda et al. 2023; Becker et al. 2024).

Identifying landscapes at the greatest risk of being affected by targeted lion poaching can contribute to area-based interventions (i.e., a problem-oriented approach [Goldstein 1979]). To this end, the systematic documentation of all known mortality events—and storing them in a centralized, standardized database to enable the monitoring of trends over time and detect emerging hotspots—enables detection of patterns and the development of evidence-led interventions. The IUCN Cat Specialist Group's African Lion Database offers a platform with substantial utility for this purpose. Additionally, the monitoring of lion populations via robust surveys is a tool for helping detect the emergence of threats; for example, lion surveys were instrumental in raising the alarm over declines in lion populations in parts of Gonarezhou and Kruger NPs. Finally, efficient mechanisms for timely communication between stakeholders (PA staff, researchers, the private sector, and communities) allow for coordinated responses to threats and enable evidence-based management actions and policy responses across a variety of scales.

4.2 | Effective Community Engagement

Communities that live within and around PAs can exert a profound influence on conservation outcomes (Becker et al. 2022). When communities are engaged effectively in conservation efforts—for example, through participation in the governance or management of PAs and/or through effective liaison and/or through initiatives to achieve community buy-in for conservation efforts—local people can significantly improve the prospects for effective conservation. Conversely, when trust or perceived benefits are lacking, communities may directly engage in poaching or facilitate access to wildlife for external actors. Achieving genuine and lasting buy-in requires understanding local attitudes toward conservation and the root causes of disengagement or resistance (Cooney and Challender 2020). This includes understanding the motivations behind why some individuals become involved in poaching or other illegal activities (Challender et al. 2025; Hübschle and Shearing 2018). Once understood, these grievances and the broader drivers of illegal behavior can be addressed through locally relevant interventions (Hübschle and Shearing 2018; Moneron et al. 2020; Dore et al. 2022).

Although effective community engagement is widely recognized as essential, achieving local buy-in for lion conservation poses particular challenges (Cooney and Challender 2020). Lions are often perceived as especially costly due to their tendency to prey on livestock and threaten human safety (Jacobsen et al. 2022). This can foster deep resentment toward the species. Thus, tackling human–lion conflict is a critical means of increasing support for conservation efforts. Indeed, some of the most effective means of tackling such conflict, through the hiring of lion "guardians" from affected communities to work with local people to promote improved livestock husbandry, respond to conflict incidents, and provide early warning to pastoralists where lions approach, are effective means of engaging and working with communities towards conservation objectives.

4.3 | Understanding the Trade

Better understanding the illegal trade in lion parts is a critical prerequisite to establishing informed and effective measures to tackle the issue (Cheng et al. 2017). More specifically, there is a need for an improved understanding of: poacher motivations,

the profile and motivations of consumers of lion parts, the extent of convergence between this issue and other crime types (e.g., trafficking other species and drugs), supply chains, the extent to which syndicates are involved, and their organizational structure and their *modus operandi* (e.g., Moneron et al. 2020). Novel technologies and methodologies show promise in the clarification of supply chains; for example, systems to trace lion parts back to source populations through rapid and advanced genetic testing (Mamugy et al. 2024), and other chemical techniques such as mass spectroscopy (Coals et al. 2021; Hutchinson and Roberts 2020).

4.4 | Anti-Trafficking Interventions

Disrupting the illegal trade in lion parts requires targeted, intelligence-led interventions along key trafficking routes (Hiller and 't Sas-Rolfes 2024). We suggest that priority be given to enhancing intelligence sharing between wildlife authorities, customs, airport security, and law enforcement agencies. We consider that routine surveillance and inspection at major airports, border crossings, and known transport corridors should be standard practice, guided by real-time data and coordinated enforcement strategies (Moloney and Chaber 2024). We also encourage efforts to also focus on dismantling trafficking networks by identifying intermediaries and traffickers, and high-level traffickers and ensuring prosecution across the supply chain. Investment in advanced detection tools—such as wildlife detection dogs, x-ray scanners, and mobile forensic kits—can further strengthen detection and interception capabilities. These actions could be embedded within national and transnational crime frameworks, enabling the use of specialized investigative techniques and promoting cross-border cooperation. Intercepting illegal wildlife products before they reach consumer markets can reduce the potential profit that traffickers earn from sales, thereby lowering the economic incentives intermediaries to supply these products.

4.5 | Justice Processes for Wildlife-Related Crimes

In some range states, lions are not fully protected under national law, and penalties for wildlife crimes are weak, which may limit deterrence. In such states, legal frameworks must be updated to provide for meaningful penalties for crimes related to lions. We recommend steps to ensure that laws are sufficiently comprehensive to de-incentivize all aspects of the illegal trade, including poaching, possession, and trafficking. Before governments can be effectively lobbied to introduce adequate laws pertaining to lions, a body of work is needed to identify gaps in the legal framework, as it applies to lion poaching and trade in lion parts. Such work might focus on factors such as

a. The degree to which CITES is incorporated and implemented in national legislation.
b. The adequacy of local regulation of activities relating to trade in lion body parts.
c. Provision in law for prosecuting the transnational nature of the trade in lion parts.
d. The consistency with which laws related to lions are applied.

A number of other steps are needed to help with the enforcement of laws relating to lions and trade in their parts, including (i) courtroom monitoring to help detect and discourage anomalies in application of the law corruption (Kassa et al. 2019), training to encourage the proper handling and use of forensic evidence (particularly DNA), development of capacity to analyze lion samples to determine their provenance, improving information sharing among border officials, PA staff, customs agents, and judicial authorities to support coordinated investigations and prosecutions, and reducing the time between the arrest and sentencing of suspects. Work is needed with offenders to understand their motivations and to avoid re-offending (Dore et al. 2022; UNODC 2020; UNODC 2024).

Although the effectiveness of justice-system interventions in addressing wildlife-related crimes is still debated, such measures are widely recognized in international and national policy frameworks as essential for combating IWT and poaching. Although the direct conservation outcomes of judicial interventions are difficult to measure, the consistent prosecution and sentencing of offenders is fundamental to deterrence. Without functioning justice systems, enforcement efforts collapse into impunity, creating conditions where poaching and trafficking can continue unchecked. Experiences from Zambia and Malawi demonstrate that courtroom monitoring, magistrate engagement, and targeted legal mentorship can significantly improve outcomes. In Zambia, conviction rates for wildlife crime rose from 65% in 2017 to 87% in 2024, with big cat convictions averaging 60-month custodial sentences (Wildlife Crime Prevention 2024). For lions in particular, conviction rates fluctuated sharply in recent years, falling to 48% in 2023 but rebounding to 83% in 2024, a recovery that coincided with strengthened judicial engagement and more consistent application of sentencing frameworks (Wildlife Crime Prevention 2024). These gains have been attributed to initiatives such as courtroom monitoring, rapid-reference guides, and magistrate field visits which improve consistency in prosecutions and sentencing. Similar interventions in Malawi have also shown that courtroom observation and collaborative prosecution reduce case failures and raise conviction rates (Lilongwe Wildlife Trust & Department of National Parks and Wildlife 2021). Together, this evidence underscores that strengthening judicial capacity is critical to ensuring that arrests translate into meaningful deterrents.

4.6 | Reduce Demand for Lion Body Parts

Once there is a sufficiently clear understanding of the nature of demand for lion body parts, including product preference, substitution with other species, and cultural drivers (Coals, Dickman et al. 2020; Moorhouse et al. 2020), we urge exploration of demand reduction campaigns as a potentially important tool. Despite gaps in our understanding of the trade in lion parts, there have been promising examples from other large carnivore campaigns in Southern Africa. For instance, efforts to reduce demand for wild leopard skins, such as the use of high-quality synthetic alternatives in traditional ceremonies, combined with behavior-change campaigns to encourage their adoption, have shown measurable success (Naude et al. 2020). Demand reduction campaigns may

include the promotion of alternatives, such as realistic synthetic claws, teeth, or skins. These interventions can reduce pressure on wild lion populations while still respecting cultural traditions and consumer preferences where appropriate (Naude et al. 2020). Although such interventions may not eliminate demand entirely, they can help reduce pressure on wild populations when implemented as part of a broader suite of conservation measures.

4.7 | Efficacy of Action

There is considerable debate as to the efficacy of certain proactive interventions in achieving desired conservation outcomes in complex trade systems. Implementation has often yielded mixed results across species (Challender et al. 2025). Although interventions such as anti-trafficking, justice system strengthening, and demand reduction are embedded in national and international policy frameworks, their effectiveness in reducing poaching pressure for lions or other species remains unquantified and largely unproven. A dedicated, comparative assessment of these measures across different species and contexts is urgently needed to evaluate their conservation impact and guide more targeted policy responses.

In cases of inconclusive evidence for trade interventions, various interpretations of the precautionary principle have been invoked (Foster et al. 2000). *An* interpretation of the principle holds that where there is a plausible threat of significant harm, a lack of full certainty should not be used as a reason to delay action. We acknowledge inherent complexity in the application of precautionary approaches, particularly their vulnerability to underlying normative influences (see Coals, Burnham, Loveridge, et al. 2019, Section 4.4). Nevertheless, we, as an authorship working on lion conservation, advocate for proactive interventions based on the best available information and early warning signals, even where datasets are small or incomplete. However, we are cognizant that in the case of other heavily trade-impacted species, well-meaning interventions have served to exacerbate conservation issues (Challender et al. 2025). A comprehensive evaluation of the potential risks associated with the intervention categories that we suggest is beyond the scope of this article. Nevertheless, such an analysis would be foundational to practical implementation.

5 | Conclusion

We have made the case that targeted poaching for lion body parts poses a serious threat to lion conservation. Lion conservation stands at a defining juncture. If poaching pressures can be reduced and governments, NGOs, communities, and landowners are supported with the resources and tools needed to monitor and conserve lion populations effectively, declines can be stemmed and recovery achieved in many areas. Conversely, if lion poaching proliferates unchecked, lions may face rapid extirpation in some areas and substantial reductions in others. Urgent action is needed to acknowledge, understand, and address this crisis and safeguard the future of Africa's lions.

Acknowledgments

We would like to thank all data providers who shared information on recent incidents where lions were targeted for parts. In addition, we would like to thank Dr. Dan Challender for his thoughtful insights and contribution to our manuscript draft. In addition, thanks must go to Jo Bert who created the infographic for Figures 2 and 5.

Funding

The authors have nothing to report.

Conflicts of Interest

The authors declare no conflicts of interest.

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Data Availability Statement

Data sharing is not applicable to this article as no datasets were generated or analyzed during the current study.

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Supporting Information

Additional supporting information can be found online in the Supporting Information section.

TABLE S1. Summary of incidents recorded after 2019 where lions were illegally killed and body parts were harvested. This is not an exhaustive list of incidents that have occurred but is a summary of the incidents contributed to this study to illustrate the severity and geographic scope of the threat to the species.