Global bear conservation requires local action

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Few wild animals are as engrained in our collective psyche as bears. They are found across Asia, Europe, and North and South America, occupying habitats that range from tropical rainforests to Arctic sea ice. Their charismatic nature affords them a special place in popular culture, positioning them as flagships for climate action (the polar bear *Ursus maritimus*) and conservation (the giant panda *Ailuropoda melanoleuca*). Although some species are widely known and instantly recognizable, others remain relatively obscure. The sun bear *Helarctos malayanus*, for example—often referred to as the forgotten bear species—is one of the least studied ursids. We are only now uncovering even the most basic aspects of its ecology (e.g. David et al., 2024). This visibility gap matters: media and donor attention gravitate towards the best-branded species, leaving limited resources for studies on species whose problems are just as—if not more—dire.

Despite comprising just eight extant species, the family Ursidae encompasses a remarkable amount of ecological diversity: from Andean bears *Tremarctos ornatus* foraging in high-altitude grasslands (Pilfold et al., 2024) and polar bears capable of long-distance swimming in the Arctic Ocean (Pagano et al., 2012), to bamboo-specialist giant pandas (Nie et al., 2015) and sloth bears *Melursus ursinus* adapted for insectivory (Sacco & Van Valkenburgh, 2004). As a group, bears have adapted to a broad range of environmental conditions and occur across continents, latitudes and climates. However, many species—particularly the ecological specialists—face mounting threats from habitat loss, human–wildlife conflict, illegal trade and climate change.

The American black bear *Ursus americanus* and the brown bear *Ursus arctos* are categorized on the IUCN Red List as Least Concern, and the Andean bear, sun bear, polar bear, Asiatic black bear *Ursus thibetanus*, sloth bear and giant panda are categorized as Vulnerable. However, although global Red List assessments provide a useful snapshot of overall species extinction risks, they can obscure the precarious state of local subspecies and populations, particularly for wide-ranging species. For example, the brown bear is categorized as Least Concern globally yet high-altitude subpopulations in Nepal are categorized nationally as Critically Endangered, with fewer than 20 mature individuals remaining (Kusi et al., 2025). The Louisiana black bear *Ursus americanus luteolus*, a subspecies of the American black bear, was removed from U.S. Endangered Species Act protection in 2016 despite genetic evidence showing that interbreeding with translocated bears has effectively placed this subspecies on a path to genomic extinction (Nowak, 2025). And Asiatic black bears and sun bears have recently been categorized as Critically Endangered in Vietnam, where they have faced prolonged exploitation (Crudge et al., 2020; Phuong, 2023a,b).

Red List assessments and the Species Conservation Cycle (Rodriguez & Fisher, 2023) are underpinned by the need for quality data. Distribution is a fundamental component of a species' ecology, and vitally important for effective conservation planning, yet remains poorly documented for bears across large portions of their range (e.g. Akash et al., 2025; Li et al., 2025). Gaps in understanding can lead to inconsistencies in reported population status (e.g. Akash et al., 2025; Nowak, 2025). Improving monitoring and clarifying areas of uncertain distribution are priorities for bear conservation (e.g. Crudge et al., 2019; Proctor et al., 2022). Yet large portions of many species' ranges remain completely unsurveyed. Encouragingly, techniques such as occupancy modelling based on bycatch data (Sibarani et al., 2024) and remote-sensing predictors (Scotson et al., 2021) are beginning to reveal where habitat for these understudied bears persists. However, model-based assessments often don't capture key pressures such as hunting, which can considerably affect population viability (Tilker et al., 2019); incorporating local ecological knowledge and targeted field surveys (Proctor et al., 2022) can help address these shortcomings.

There is a growing recognition of the need for more rigorous and carefully designed monitoring methods for understudied bears (Garshelis et al., 2022). Robust data are especially needed where populations are dependent on conservation interventions, such as edge populations (Akash et al., 2025) or when interventions may be contentious (e.g. Crudge et al., 2020; Nowak, 2025). Without robust data, thresholds of sustainability can be difficult to set and can be contestable even in relatively well-resourced contexts. Nowak (2025) illustrates this in the USA, where the availability of genetic data for American black bear populations failed to yield uncontested decisions for population management. Kusi et al. (2025), Akash et al. (2025) and Li et al. (2025) demonstrate the utility of less resource-intensive methods to assess population status, such as using local ecological knowledge and camera-trap bycatch data.

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When wild populations are difficult to study in situ, small-scale ex situ studies can add to our understanding of species' ecology and contribute to conservation. Thousands of bears are cared for in zoos and rescue facilities, providing opportunities for important conservation research (Kolter et al., 2021). Such work has advanced knowledge of bear biology, such as reproduction (e.g. Dathe, 1962; David et al., 2024). Ex situ studies of bear behaviour, health, physiology, nutrition and genetics, and testing field techniques, can also contribute to species conservation (Schneider et al., 2020).

Without further effort to garner attention and mobilize resources, understudied species, populations and subspecies may fall through the net of global categorizations. Turning worldwide concern into meaningful, species-wide conservation gains requires directing finance, expertise and attention to the landscapes and communities where bears are on the verge of extinction. Range state agencies and in-country NGOs need predictable resources for long-term monitoring, and philanthropic and governmental donors need to recognize that global conservation labels may mask the high risk that understudied bears in understudied areas may be encountering. Community-based surveys, population monitoring, local risk assessments and targeted genetic sampling should be emphasized, ensuring that local trends help shape national and global policies. Journals—such as *Oryx*—and funding panels, can accelerate this by prioritizing studies and risk assessments that focus on hitherto neglected species, subspecies and populations. Conservation networks—such as the Species Survival Commission Bear and Polar Bear Specialist Groups—can facilitate adoption of systematic and coordinated approaches, to ensure effective and efficient use of limited resources, and to allow local actions to contribute to successful global bear conservation.

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