Plastics in the Peaks: The Hidden Threat to Himalayan Wildlife

Maile McFarland

Summary

The critically endangered Himalayan brown bear is up against new threats from plastic waste leaching into their natural habitats in the Indian Himalayan Region. Their diet now consists of up to 75% human-generated waste, causing these bears to suffer malnutrition and health risks from ingesting toxic materials like Bisphenol-A. Increased tourism growth, poor waste management infrastructure and inadequate disposal methods exacerbate the issue, threatening the wildlife and ecosystems alike. Activist groups like Waste Warriors are making strides to address these challenges by empowering communities, improving infrastructure and collaborating with local governments, creating hope for the region's biodiversity and ecological health.

In 2012, the activist group Waste Warriors was founded to tackle the growing problem of waste management in the Indian Himalayan region. Recognizing the mounting threats that plastic pollution posed to wildlife and natural ecosystems, Waste Warriors began working in partnership with local communities and governmental agencies to protect the fragile environment of Himachal Pradesh and Uttarakhand. Their efforts reflect a broader need to understand how human waste, especially plastic, is aging mountain landscapes and endangering wildlife such as the Himalayan brown bear.

The Himalayan brown bear (*Ursus arctos isabellinus*), a subspecies of the brown bear with only 500 to 750 remaining in the wild, has faced increasing threats from human plastic consumption since the early 2000s. Although the broader species (*Ursus arctos*) is classified as Least Concern by the International Union for Conservation of Nature (IUCN), this subspecies is recognized by local conservation groups as highly threatened due to its small population and the rapid loss of its alpine habitat. Drawing on recent findings in ecological research, this article highlights how human waste alters natural ecosystems in the Indian Himalayas and threatens the survival of wildlife like the Himalayan brown bear.

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Himalayan brown bears in Kugti Wildlife Sanctuary, Himachal Pradesh.

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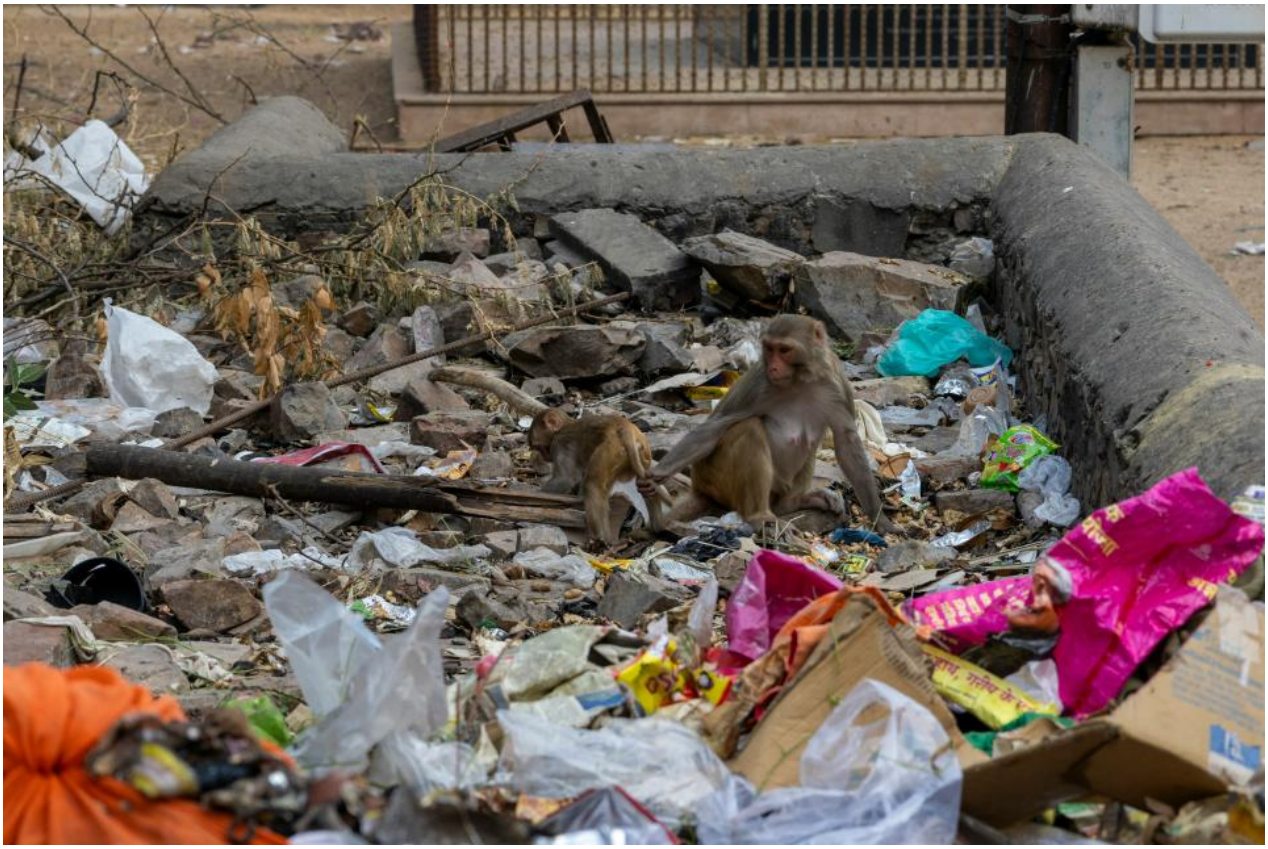
Traditional challenges like poaching, the encroachment of human and livestock populations, and the bears' strong dependency on dwindling natural resources and alpine pastures remain key threats to the survival of their species. However, recent studies suggest that 75 percent of the bears' diet now consists of scavenged waste from human dump sites. This dietary shift reduces nutritional intake and introduces toxic materials that could impact their health, further threatening a vulnerable population. The increased accessibility to waste is caused by the expansion of tourism and infrastructure development in the Indian Himalayan region, where inadequately managed waste disposal creates a dangerous overlap between human and wildlife habitats.

Wild animals have increasingly been observed near the edges of protected areas such as the Shivalik Elephant Reserve and Kugti Wildlife Sanctuary, often searching for food from nearby waste sites. These animals are responding to a landscape drastically altered by human development. The expansion of tourism, infrastructure, and settlement has fragmented forests and pushed human waste into previously undisturbed ecosystems, forming new spaces where wildlife and waste intersect. The widespread availability of waste for wildlife consumption harms terrestrial ecosystems. In some regions, over 80 percent of the animals found at waste dumps are wild species, including bears, elephants, storks, and crows, putting them at significant risk from plastic ingestion. Animals with less dexterity while eating, such as birds, ingest more plastic, amplifying health risks. This dependency on waste undermines natural dietary habits and survival, directly linking wildlife struggles to human expansion in these mountain ecosystems.

Plastic waste contains harmful chemicals like bisphenol A (BPA), which can negatively affect animal health, reproduction, neurological systems, embryonic development, and mortality rates. Pathogens, such as *Salmonella*,

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and zoonotic diseases (which can be transferred from animals to humans) are also commonly found in waste dumps. Many animals accidentally eat plastic while scavenging in waste-ridden areas. This can block the digestive system, which can lead to starvation, ulceration, or perforation of the digestive tract, and, ultimately, mortal injuries. Wild animals also suffer from entanglement in plastic waste, which can create external wounds, impair movement and feeding, reduce fitness, and cause death.



Monkey on a pile of trash. Rajasthan, India.

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Over the last few decades, the Indian Himalayan region has undergone rapid transformation through progressive development, with tourism as one of its fastest-growing sectors. Paradoxically, protected areas focused on conserving nature and endangered species have also become hot spots for ecotourism and infrastructure expansion. Tourists visiting these nature reserves leave behind plastic and other waste materials that accumulate and harm the landscapes they come to admire. In this way, conservation spaces unintentionally morph into "harmscapes," where wildlife like the Himalayan brown bear are exposed to dangerous human waste. Their popularity brings in activity that damages the ecological balance and transforms protected zones into risk sites.

The issue is exacerbated by inadequate solid-waste management infrastructure, especially in remote and mountainous areas. The extreme climate and challenging topography of highland communities make it difficult to implement effective systems. This has led to reliance on improper disposal methods such as dumping and burning, which harm wildlife and damage ecosystems by polluting freshwater streams and releasing pollutants

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that accelerate glacier melt. In some areas, local dumping has emerged from inadequate infrastructure and accessible waste-management education. Growing tourism has further increased waste generation, straining the already inadequate infrastructure system.

To minimize the impact of waste on wildlife, waste management must account for the needs of nonhuman life. Activist groups like Waste Warriors have significantly improved waste management by collaborating with local communities to codesign and implement systems, enhance infrastructure, inspire governments, promote entrepreneurship, and overcome the social stigma of waste work. Some community members have stepped into leadership roles, with attitudes toward waste and conservation shaped by complex place-based relationships with the land. Since 2012, Waste Warriors has collected and sorted 5,570 metric tons of waste and actively involved 160,000 people.

Moreover, they work with multiple government bodies – including forest departments (e.g., in northeastern India), tourism departments, local governance bodies (e.g., Panchayati Raj), pollution control boards, and departments of science, technology, and urban and rural development – to align solid waste policy. Waste Warriors also work alongside agencies such as the Centre for Public Policy and Good Governance (Uttarakhand) to help address human-caused environmental challenges, contributing to wildlife protection one step at a time.

Further readings:

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Related links:

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  https://www.wastewarriors.org/
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  http://www.downtoearth.org.in/news/wildlife-biodiversity/encroachment-pushes-himalayan-brown-bears-into-kashmir-s-villages-89682

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- https://commons.wikimedia.org/wiki/File:Himalayan_brown_bear_-_Kugti_Wildlife_Sanctuary.jpg
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About the author:

Maile McFarland
Maile McFarland is a graduate of the London School of Economics with a master's in environmental policy and regulation. Her work focuses on the intersection of climate change and social development. For her master's dissertation, Maile explored the health impacts of limited access to nature due to conflict in Colombia, highlighting how young urbanites navigate their relationship with nature in challenging environments. She is particularly interested in sustainable development and the ways environmental issues influence social well-being and resilience.