



Tribhuvan University
Central Department of Zoology
Kirtipur

Policy Brief

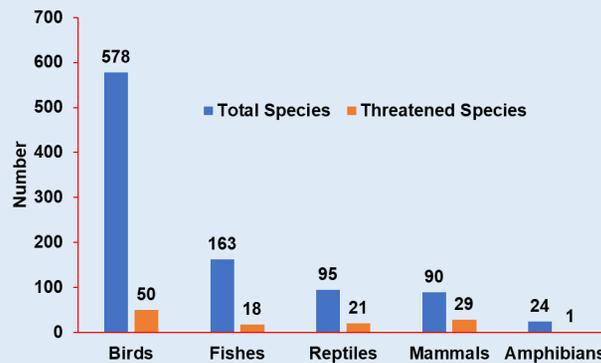
Conservation Strategies for Vertebrate Fauna of Madhesh Province, Nepal- 2025

Key Points for Policy Recommendation

Madhesh Province, rich in biodiversity with 163 fish, 119 herpetofauna, 578 bird, and 90 mammal species, faces growing anthropogenic threats from habitat encroachment, unsustainable resource extraction, and rapid infrastructure development. Critical habitats outside the protected areas, especially the Chure landscape remains under-documented. Strategic conservation measures include restoring and establishing wildlife corridors, enhancing habitat conservation policies, and promoting sustainable livelihoods. Priority actions involve protecting forest habitats in Sarlahi and Dhanusa districts, creating north-south forest and river corridors, and investing in eco-friendly infrastructure and anti-poaching technologies, translocation and management of problematic wildlife species. An integrated approach focusing on conservation, community well-being, and sustainable resource extraction strategies is essential to ensure long-term biodiversity protection and mitigate human-wildlife conflicts.

The Challenge on Faunal Diversity

Research on vertebrate fauna in Nepal has largely concentrated inside the protected areas, leaving a substantial knowledge gap regarding species distribution and abundance outside protected areas, particularly in Madhesh Province. While evidence suggests that a significant proportion of mammals and birds inhabit these areas, even data on fish and herpetofauna remain insufficient. Human-wildlife



conflict, habitat degradation, and illegal wildlife trade are escalating due to deforestation, agricultural land and human settlement expansion due to population movement and urbanization. The Chure landscape especially in Madhesh Province, experiencing rapid deforestation leading to desertification, further exacerbates biodiversity loss, while flood-prone regions in eastern and central Tarai contribute to habitat fragmentation.

Madhesh Province is home to critical species such as tigers, Asian elephants, and leopards, which rely on these areas as biodiversity corridors. Despite conservation efforts like the President Chure Conservation Program, knowledge gaps persist regarding faunal diversity, habitat suitability, and

community engagement. These gaps do not support to develop conservation strategies beyond protected areas, and promoting coexistence between wildlife and human communities in Madhesh Province.

Towards Sustainable Development Pathways

The vertebrate fauna of Madhesh Province plays a crucial role in maintaining ecological balance and sustaining livelihoods, aligning with global and national biodiversity commitments. The Rio+20 Summit emphasizes sustainable development through biodiversity conservation, which is directly linked to Madhesh's threatened species and their ecosystem services. The Convention on Biological Diversity calls for habitat protection and species conservation, necessitating urgent measures in Madhesh, where deforestation, habitat fragmentation, and human-wildlife conflict are escalating. Nepal's National Biodiversity Strategy and Action Plan (NBSAP) prioritizes biodiversity conservation beyond protected areas, making Madhesh's rich but vulnerable fauna a critical focal point. Furthermore, the ongoing development of a new NBSAP, aligned with the Kunming-Montreal Global Biodiversity Framework, aims to conserve and sustainably manage Nepal's biodiversity, ensure equitable benefit-sharing, and support national development and food security by preventing species loss. To achieve this target, one of the key priorities is sustainable resource management in the Chure landscape, aimed at preventing biodiversity loss and promoting ecosystem restoration. By integrating scientific research, conservation policies, and community engagement will support

evidence-based decision-making for biodiversity conservation, ensuring a sustainable future for both wildlife and local communities in Madhesh Province.

Methods

This policy brief presents key findings and policy recommendations developed from a comprehensive review of existing national and international biodiversity conservation policies, consultations with policymakers, and field assessments of vertebrate fauna in Madhesh Province. Species-specific methods were used to confirm the presence and abundance of fish, herpetofauna, birds, and mammal species. Field data collection also enabled the evaluation of natural and anthropogenic threats impacting these species. Additionally, human-wildlife conflict and potential mitigation measures were assessed through structured questionnaire surveys aimed at promoting coexistence between wildlife and local communities. The findings provide evidence-based guidance for enhancing biodiversity conservation efforts and fostering sustainable human-wildlife coexistence in Madhesh Province.

Policy Recommendations for Addressing the Root Causes

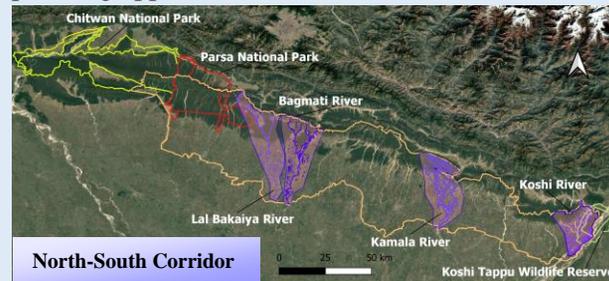
Habitat connectivity: Establishment of protected areas in the Chure region to connect the Parsa National Park and Koshi Tappu Wildlife Reserve. This will develop a corridor between these two protected areas, and might be suitable for Asian elephant, and other mammal species' movement.

Develop and maintain wildlife corridors between protected and non-protected areas, focusing on species like tigers, leopard, sloth bear, and elephants. In addition, protection of the remanent forest patches and north-south river corridors are also highly required for the birds and other wildlife species.



Priority forests: Janakinagar-Murtiya Forest, Sagarnath and associated forests, Bhatighati Forest of Danusha, Dhanusadham Protected Forest

Priority and potential north-south corridors: Jaladh Khola, Kamala River, Dhanushadham-Baluwakhola, Lakhandehi River, and River basin planning approach.



Priority wetlands: Koshi, Kamala, Bagmati, Lal Bakaiya rivers, Baba Tal in Siraha.

Conflict mitigation: Implement measures like wildlife-friendly infrastructure such as road, bridge, etc. and compensation schemes to reduce human-

wildlife conflicts. Translocation of problematic wildlife such as blue bull to the core habitat of protected areas such as Chitwan NP, Parsa NP, Banke NP, Bardia NP and Shuklaphnata NP where Tiger is abundant.

Research and monitoring: Establish a comprehensive database to track species distribution and ecological trends, enabling informed and adaptive policy and management decisions.

Transboundary cooperation: Large territorial and problematic wildlife are moving between countries and for their proper management a transboundary dialogue is needed especially between India and Nepal to develop cross-boundary conservation policies.



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