

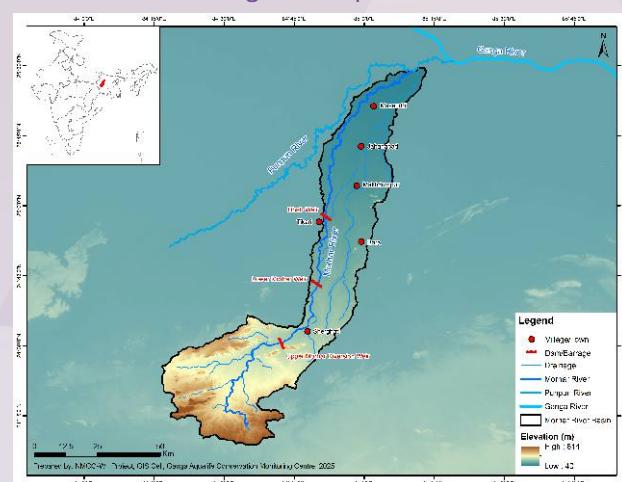


Morhar

GENERAL INFORMATION

- Morhar River, a tributary of the Punpun River, originates in the Dumaria Upland on the eastern edge of Palamu district, Jharkhand, and flows for about 225 km through Palamu, Jehanabad, Gaya and Patna districts in Bihar.
- It joins the Punpun River near Ramganj village in Patna district, Bihar.
- Morhar River basin spans an area of about 2,585 km² (Figure 1).
- The basin falls under the Gangetic Plain (Lower Gangetic Plains – 7B) and Deccan Peninsula (Chota Nagpur – 6B) biogeographic zones.
- The climate of the basin is monsoon-influenced humid subtropical.
- Morhar basin consists of dissected hills and broad plains with diverse relief features such as plateaus, gorges, waterfalls, river terraces, alluvial flats, and valleys, shaped mainly by the basin's drainage and landform processes.
- Tributaries of Morhar include the Urur, Amauna, Kusumahi (Kasumahi), Ghari, Surhar, Anauna, and Kolhubar.
- The population density along the river is 984.67 persons/km².
- Decadal LULC changes in the Morhar basin (2008-09 to 2018-19) show a significant increase in double/triple cropping (18.71%) and minimal growth in built-up areas (0.04%) and degraded/scrub forest (0.09%). In contrast, current fallow decreased by 15.31%, rabi crop by 1.42%, kharif crop by 0.43%, and wasteland by 1.62% (Figures 2a and 2b).

Figure 1: Map of Morhar River basin



BIODIVERSITY VALUE

- Morhar basin area predominantly comprises non-forest areas (82%), followed by open forest (8.21%), moderately dense forest (7.39%), very dense forest (1.39%), and scrub land (0.88%) (Figure 3).
- Forest types in the basin include Tropical Dry Deciduous Forest and Tropical Moist Deciduous Forest, represented by sal (*Shorea robusta*), tendu (*Diospyros melanoxylon*), palash (*Butea monosperma*), amaltas (*Cassia fistula*), khair (*Senegalia catechu*), bel (*Aegle marmelos*), along with *Tamarix* spp., *Populus* spp., and *Salix* spp.
- 26 mammalian species have been documented from the Lawalong Wildlife Sanctuary, including the Endangered dhole (*Cuon alpinus*), Asian elephant (*Elephas maximus*) and Indian pangolin (*Manis crassicaudata*), and Vulnerable sloth bear (*Melursus ursinus*).
- 42 bird species have been recorded from Gaya district, including wetlands such as Barwadih Lake, Digghi Talab, Katari Hill Pond, Cobra Camp Pond and Gopi Bigh. Key waterbirds include bar-headed goose (*Anser indicus*), lesser whistling duck (*Dendrocygna javanica*), and black-crowned night heron (*Nycticorax nycticorax*).

Figure 2a: LULC map of Morhar River basin (2008-09)

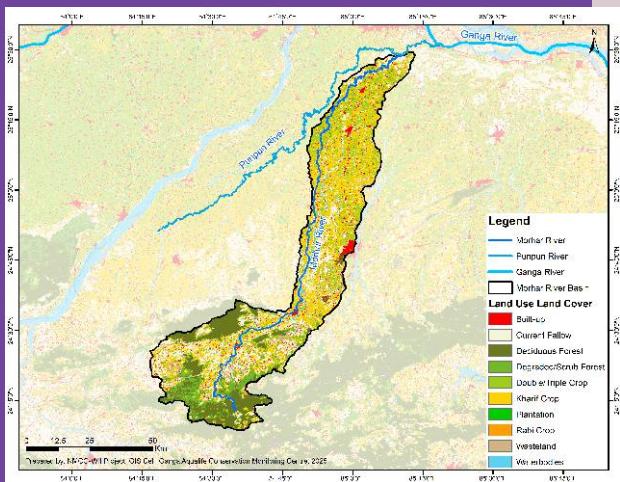


Figure 2b: LULC map of Morhar River basin (2018-19)

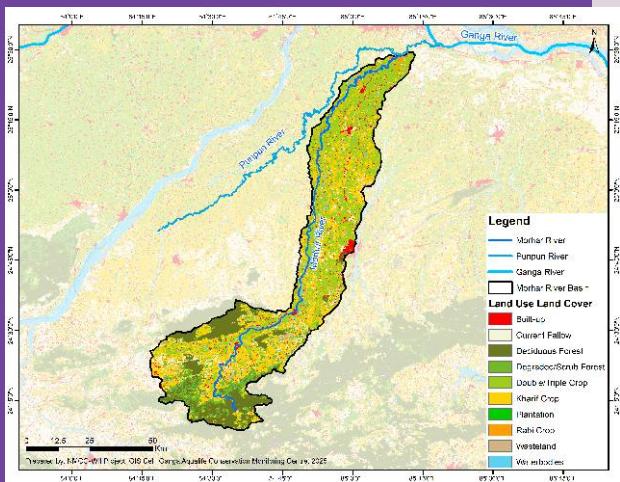
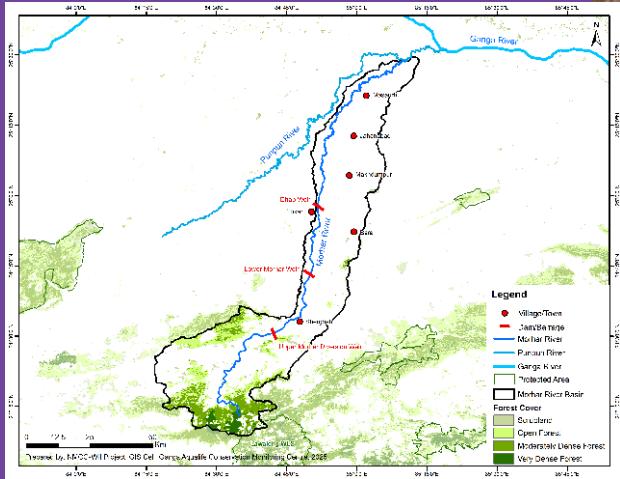


Figure 3: Forest cover of Morhar River basin (2019)



CONSERVATION SIGNIFICANCE

ENDANGERED

Mammal

Dhole *Cuon alpinus* (Pallas, 1811),

Asian elephant *Elephas maximus* (Linnaeus, 1758)

Indian pangolin *Manis crassicaudata* (É. Geoffroy, 1803)

VULNERABLE

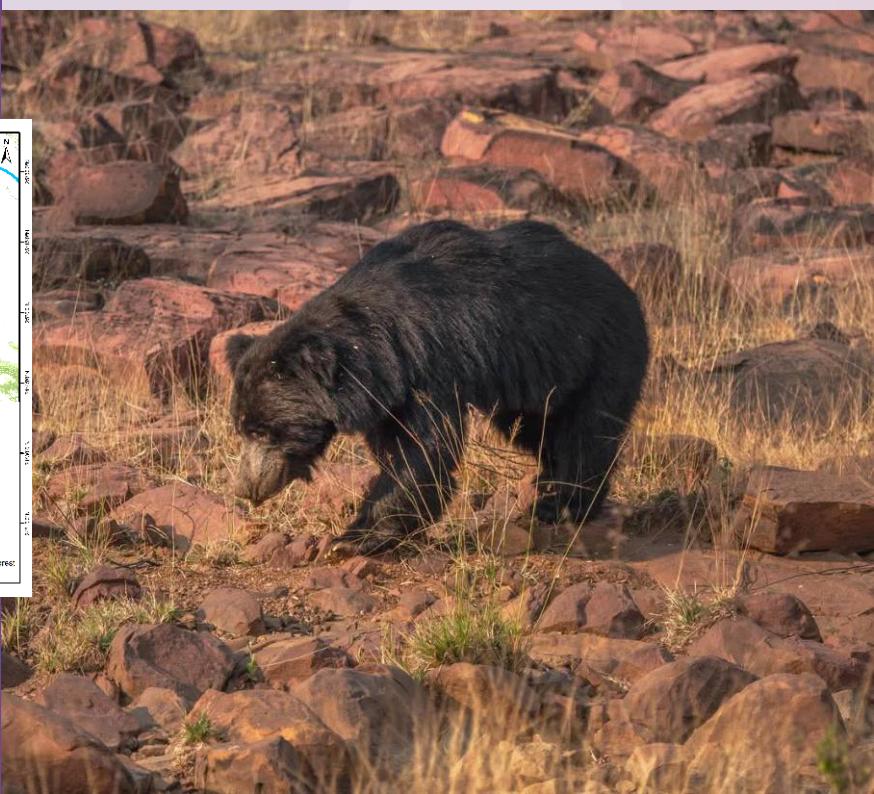
Mammal

Sloth bear *Melursus ursinus* (Shaw, 1791)

KEY PROTECTED AREAS

Lawalong Wildlife Sanctuary

©Asela Karunaratne





DRIVERS OF RIVERSCAPE CHANGE

- The Morhar river stretch near Chitab Khurd and Pariya, in Gaya district, has undergone significant encroachment due to human settlements, destabilizing the riverbanks and affecting local ecosystems.
- Illegal sand mining near Baghauta, Bhori, Rajan Gaon, and Baijudham is causing major alterations to the riverbed structure.
- Multiple weirs in the upper stretches of the river have reduced downstream flow, leaving several stretches dry.
- Domestic waste and sewage are being discharged directly into the river, particularly near the Jehanabad area, degrading the natural river condition.

INTERESTING FACTS

- Mahabodhi Temple Complex at Bodhgaya, one of the four holy sites associated with Lord Buddha's life (particularly, his enlightenment), is a UNESCO World Heritage Site. The complex includes the Mahabodhi Temple, the Vajrasana, the sacred Bodhi Tree, six other sacred sites, and the Lotus Pond. Originally built by Emperor Asoka in the 3rd century BCE, the present brick temple dates to the 5th-6th centuries CE, during the late Gupta period, making it one of the earliest brick temples in India and a significant influence on subsequent brick architecture. The complex is archaeologically important, reflecting the evolution of Buddhist worship, the construction of sanctuaries and stupas, and the development of the surrounding ancient city over centuries.
- The giant Bodhi Tree, located west of the Mahabodhi Temple, is believed to be a direct descendant of the original tree under which Prince Siddhartha Gautam attained enlightenment, and became Buddha.
- Bodhgaya has developed as a major Buddhist centre of worship, with monasteries and spiritual institutions established by countries with significant Buddhist populations, including Thailand, Japan, Bhutan, Vietnam, and South Korea. The Annual International Buddhist Festival attracts global visitors for cultural events, meditation sessions, and Buddhist teachings.
- Vishnupad Temple, dedicated to Lord Vishnu (one of the three supreme Hindu deities), is another major pilgrimage site in the Gaya district. It is believed to mark the site where Lord Vishnu granted salvation to the demon Gayasur.



National Mission for Clean Ganga,
Ministry of Jal Shakti,
Department of Water Resources,
River Development and Ganga Rejuvenation,
Major Dhyani Chand Stadium, New Delhi - 110001

GACMC/NCRR

Ganga Aquatic Conservation
Monitoring Centre/
National Centre for River Research
Wildlife Institute of India, Dehradun
nmcg@wii.gov.in



भारतीय वन्यजीव संस्थान
Wildlife Institute of India
P.O. Box #18, Chandrabani
Dehradun - 248002, Uttarakhand
wii@wii.gov.in