

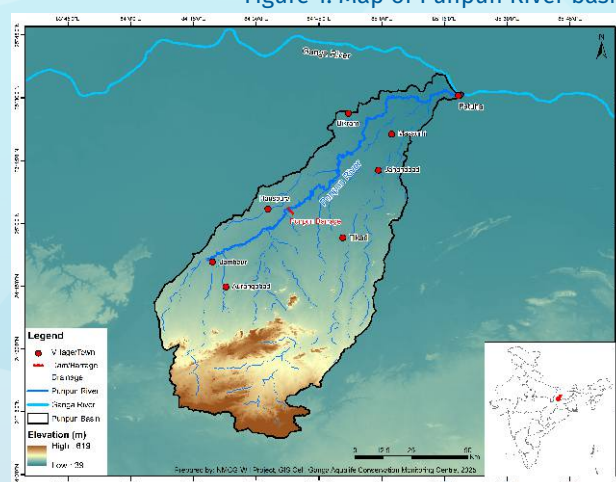
Purpun

GENERAL INFORMATION

- Punpun River, a tributary of the Ganga River, originates from the Chota Nagpur hills in the Hariarganj block (Palamu district, Jharkhand; 442 m asl), and flows for about 235 km through Palamu district in Jharkhand and Aurangabad, Gaya and Patna districts in Bihar.
- It joins the Ganga River near Fatuha, 25 km downstream of Patna city in Bihar.
- Punpun River basin spans an area of 8593.96 km² (Figure 1).
- The basin lies within two biogeographic zones, namely Deccan Peninsula (Chota Nagpur – 6B) and Gangetic Plain (Lower Gangetic Plains – 7B).
- The basin is characterized by tropical monsoon climate type.
- Punpun basin is characterized by a diverse geomorphic landscape comprising hills and hillocks, escarpments, plateau surfaces, channels and channel bars, badlands, winding divides, floodplains, natural levees, and slopes of various types
- Morhar, Dhardha, Batane, Madar, Surhar, Cholaki, Labji, Madawar and Adari are the major tributaries of Punpun.
- The population density along the river is 803.95 persons/km².

- Decadal LULC transitions in the Punpun basin (2008-09 to 2018-19) recorded a substantial increase in area under double/triple cropping (19.70%), accompanied by a sharp decline in current fallow land (15.06%). Built-up area (0.05%), deciduous forest (0.05%), degraded/scrub forest (0.05%), and plantation (0%) remained largely stable with only marginal changes. In contrast, reductions were observed in kharif crop (-2.90%), rabi crop (-0.40%), wasteland (-1.40%), and waterbodies (-0.10%) (Figures 2a and 2b).

Figure 1: Map of Punpun River basin



BIODIVERSITY VALUE

- Punpun basin is dominated by non-forest area (88.93%), followed by open forest (5.32%), moderately dense forest (4.21%), scrubland (0.75%), and very dense forest (0.59%) (Figure 3).
- The basin supports Tropical Dry Deciduous Forest and Tropical Moist Deciduous Forest, with representative species like sal (*Shorea robusta*), tendu (*Diospyros melanoxylon*), palash (*Butea monosperma*), amaltas (*Cassia fistula*), khair (*Senegalia catechu*) and 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 the 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*).
- 97 fish species (13 orders and 32 families) have been recorded from the river, including the Vulnerable *Wallago attu* and goonch (*Bagarius bagarius*).

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

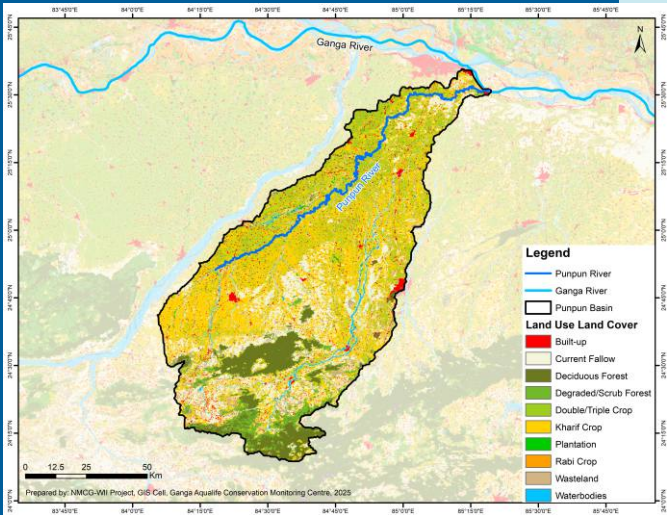


Figure 2b: LULC map of Punpun River basin (2018-19)

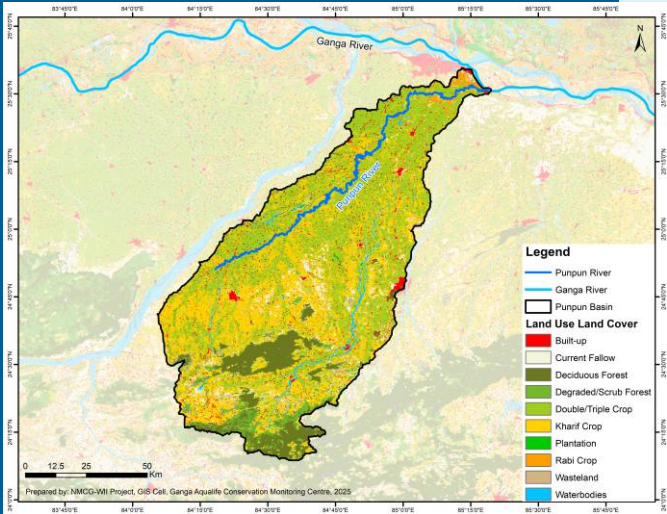
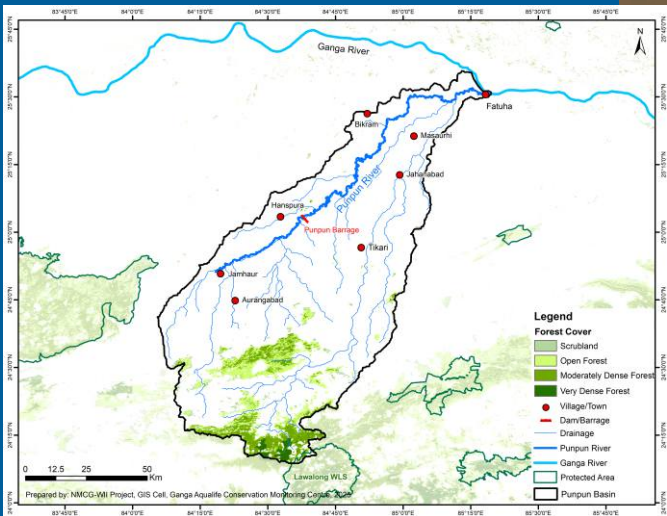


Figure 3: Forest cover of Punpun River basin (2019)



CONSERVATION SIGNIFICANCE

VULNERABLE

Fish

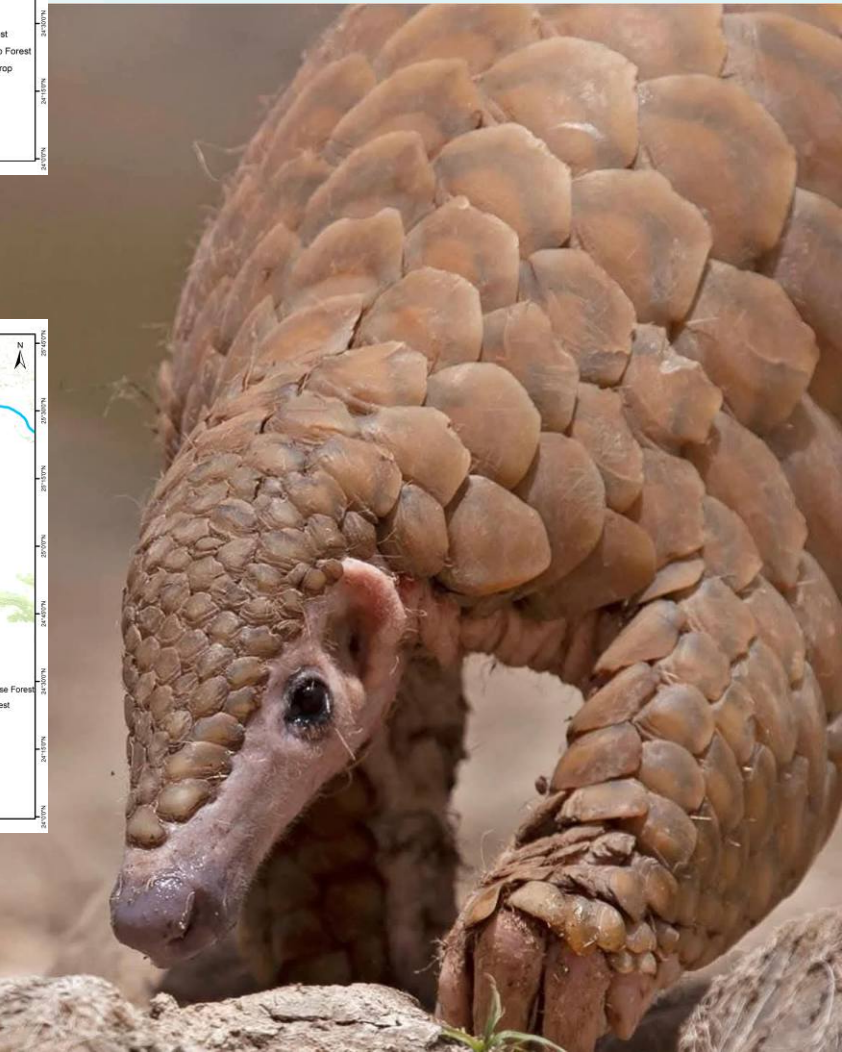
Wallago attu (Bloch and Schneider, 1801)

Goonch Bagarius bagarius
(Hamilton, 1822)

KEY PROTECTED AREAS

Lawalong Wildlife Sanctuary

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DRIVERS OF RIVERSCAPE CHANGE

- Rapid urbanization, especially in the Patna and Fatuha regions, has increased sewage discharge into the Punpun River via drains such as the Badshahi and Bankipur-Gorakh drains at Fatuha, significantly degrading the river's water quality.
- The Punpun Barrage (Aurangabad district, Bihar) has significantly impacted the river's ecosystem by altering its flow regime, sediment transport and fish migration.
- Riverbank encroachment due to agriculture and sand mining, along with deforestation within the catchment area, has accelerated soil erosion, thereby, affecting surface runoff and increasing sediment load in the river.
- Invasive fish species such as common carp (*Cyprinus carpio*), grass carp (*Ctenopharyngodon idella*), silver carp (*Hypophthalmichthys molitrix*), and Mozambique tilapia (*Oreochromis mossambicus*) pose a threat to native fish taxa by increasing competition, altering habitats, and disrupting food webs.

INTERESTING FACTS

- According to traditional beliefs, the river was originally known as 'Adi Ganga' and later became known as the Punpun River, named after Punpuniya, whose penance and spiritual transformation are believed to have pleased Lord Vishnu, who is said to have named the river in her honour and conferred salvific significance upon it.
- Punpun town, situated on the banks of the river, is believed to be the site of the first *Pind Daan*, with thousands visiting its ghats annually during *Pitru Paksha*, a 16-day period (usually September/October) in the Hindu lunar calendar, from *Bhadrapada Purnima* (full moon) to *Mahalaya Amavasya* (new moon), to perform ancestral rites (*Shraddha*) such as *Pind Daan* and *Tarpan*.
- The Ganga-Punpun confluence at Fatuha (Patna district, Bihar) is traditionally believed to be the site where *Vamana* (4th incarnation of Lord Vishnu) placed his second stride while measuring the universe for King Bali. This event is commemorated annually through the *Varuni Mela*, which coincides with the Onam festival in Kerala, where the arrival of King Mahabali is celebrated.
- Aurangabad district, named after Mughal emperor Aurangzeb, hosts significant historical and religious sites, including the 15th century Deo Sun Temple and Brahma Kund, Deo Kund Shiva Temple, Umga Vaishnava Temple, Amjhar Sharif (a Sufi shrine), Piru (birthplace of 7th century poet, Banbhata), Chandangadh Fort (a medieval fort), Daud Khan Fort (a 17th century fort), and Siris (a former pargana with a Mughal-era mosque and links to the Indian Rebellion of 1857).



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