VIBRANT GANGA

नमामि गंगे

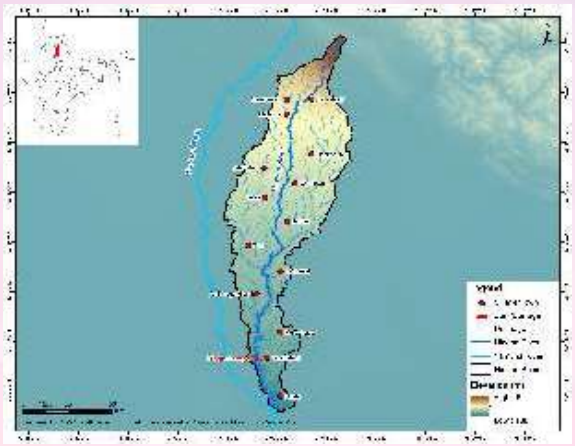
भारतीय वन्यजीव संस्थान
Wildlife Institute of India

Hindon

GENERAL INFORMATION

- Hindon River, a tributary of the Yamuna, originates at Kaluwala Khol in the Lower Shivalik range of Saharanpur district, Uttar Pradesh. It initially flows as the Barsani and is named the Hindon after being joined by smaller tributaries near Pur ka Tanda village, Saharanpur district.
- The river flows for about 260 km through the districts of Saharanpur, Muzaffarnagar, Meerut, Bagpat and Ghaziabad, and meets Yamuna River near Tilwara (Gautam Buddha Nagar district) in Uttar Pradesh.
- Hindon River basin spans an area of 5800 km^2 (Figure 1).
- The basin lies in two biogeographic zones, viz. Himalaya (West Himalaya – 2B) and Gangetic Plain (Upper Gangetic Plains – 7A).
- The basin experiences a humid subtropical climate, featuring hot summers and moderately cold winters.
- Kali (west), Krishni, and Dhamola rivers are the major tributaries of the Hindon River.
- The population density along the river is 1313.26 persons/km^2.
- Decadal LULC transitions in the Hindon River basin (2008-09 to 2018-19) recorded an increase in built-up area by 1.13%, kharif crop by 12.42%, rabi crop by 1.81%, plantation by 0.03%, and deciduous forest and watershed by 0.01%, while double/triple crop decreased by 14.11%, current fallow by 0.19%, and wasteland by 1.10% (Figures 2a and 2b).

Figure 1: Map of Hindon River basin



BIODIVERSITY VALUE

- Hindon basin is dominated by non-forest areas (96.65%), followed by open forest (2.17%), and moderately dense forest (0.85%) (Figure 3).
- The upper part of the basin supports the Moist Shivalik Sal Forest, dominated by *Shorea robusta*. The channel margins along the river supports Dry Riverine Forests, represented by *Dalbergia sissoo*, *Syzygium cumini*, *Terminalia arjuna*, *Ficus religiosa*, and *Tamarix dioica* along the channel margins. Beyond the banks, remnants of Tropical Dry Deciduous Forests are present, which include, *Acacia nilotica*, *Butea monosperma*, and *Azadirachta indica*.
- 55 species of birds (15 orders and 30 families) have been reported from the Meerut district. Threatened species in the basin includes the Near Threatened cinereous vulture (*Aegypius monachus*), great thick-knee (*Esacus recurvirostris*) and river lapwing (*Vanellus duvaucelii*).
- Critically Endangered three-striped roofed turtle (*Batagur dhongoka*) was last documented from the Hindon River in 1987.
- 47 fish species belonging to 8 orders, 17 families, and 36 genera, including the Vulnerable species *Wallago attu* have been reported from the river.

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

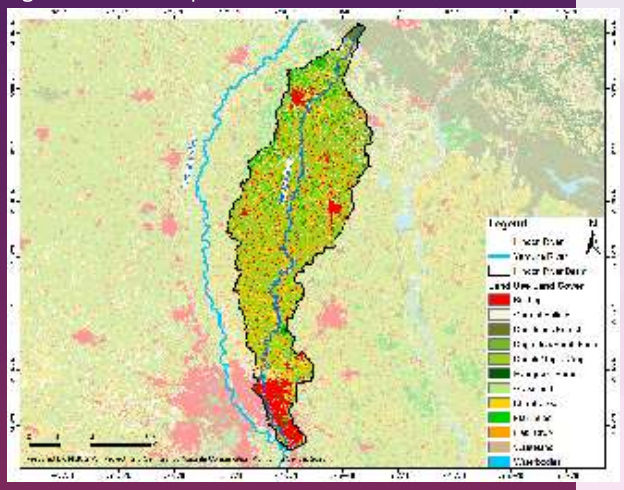


Figure 2b: LULC map of Hindon River basin (2018-19)

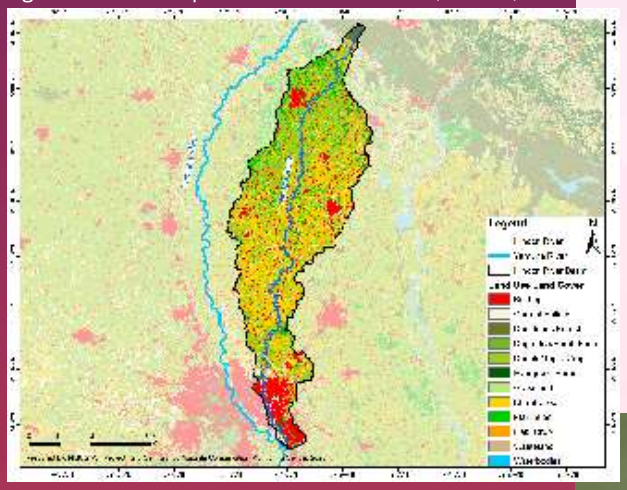


Figure 3: Forest cover of Hindon River basin (2019)

CONSERVATION SIGNIFICANCE

CRITICALLY ENDANGERED

Reptile

Three-striped roofed turtle *Batagur dhongoka* (Gray, 1832)

VULNERABLE

Fish

Wallago attu (Bloch and Schneider, 1801)

Three-striped roofed turtle (*Batagur dhongoka*) | ©*Ashish Panda*

DRIVERS OF RIVERSCAPE CHANGE

- Heavy discharge of industrial effluents, including dyes, chemicals, and heavy metals, from textile, sugar, paper, tannery, and chemical units across districts like Saharanpur, Muzaffarnagar, Shamli, Meerut, Bagpat, and Ghaziabad has severely degraded the Hindon River, with stretches showing visible contamination and discoloration.
- Hindon receives large volumes of untreated sewage and industrial wastewater from urban centres along the river (Figure 3), degrading water quality and ecosystem health. The National Green Tribunal noted in 2020 that the river is 'practically dead', with pollution beginning around 1980 following the establishment of over 300 industries.
- Hindon barrage and associated canal regulate the river's flow, reduce downstream velocity, and combined with irrigation and groundwater withdrawals, alter seasonal discharge, sediment transport, and water quality.

INTERESTING FACTS

- Alamgirpur, an important Indus Valley Civilization site (c. 3300–1300 BCE), is situated along the Hindon River, about 28 km from Delhi, reflecting early urban settlement patterns.
- Hindon River region is associated with events of the Indian Rebellion of 1857, including the nearby Battle of Badli-ki-Serai; graves dating to the 1857 Indian Mutiny still exist near the riverbanks in the Hindon Vihar area of Ghaziabad.
- Lakha Mandap, an Archaeological Site, a mound in Barnawa village (ancient name Varnavart), Bagpat district, is associated with the ancient Indian epic *Mahabharat*. It is believed to be site of the Lakhshagriha, a highly flammable 'house of lac' built by Duryodhana, the eldest of the Kauravas, to assassinate the Pandavas by burning them, who escaped through a tunnel, the ruins of which are still present at the site. The 600 year old dargah (tomb) of Sufi saint Badruddin Shah is also situated on top of the mound.
- Ghaziabad, located along the Hindon River, has been a strategic setting for historical military campaigns, including Mughal operations, Maratha–Mughal conflicts, battles between Bharatpur ruler Maharaja Surajmal and Najib-ud-Daula, and the 1803 engagement between General Lake and Maratha forces. Loni Fort is associated with Timur's 1398 invasion, marking a halt during his advance towards Delhi, and is also traditionally linked to Lavanasura of the *Ramayana*.

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