

VIBRANT GANGA



भारतीय वन्यजीव संस्थान
Wildlife Institute of India



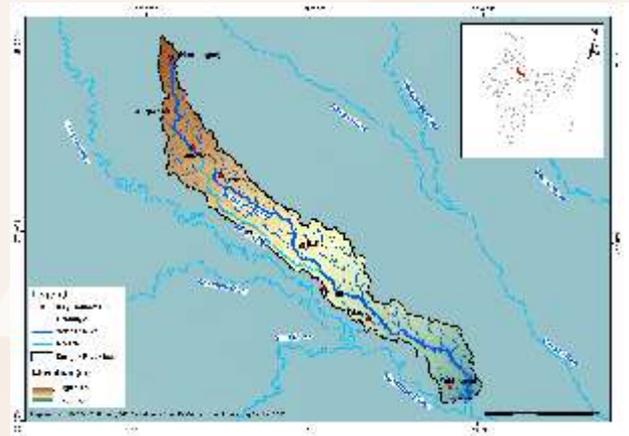
Sengar

GENERAL INFORMATION

- Sengar River, a tributary of the Yamuna River, originates near Hardua Pokhar in Harduaganj village in Aligarh district of Uttar Pradesh.
- It flows for about 480 km, through the districts of Aligarh, Hathras, Etah, Firozabad, Mainpuri, Etawah, Auraiya, and Kanpur Dehat in Uttar Pradesh.
- It meets the Yamuna River at Keotra Katari village in Kanpur Dehat district (Uttar Pradesh).
- Sengar River basin spans an area of about 6,314 km² (Figure 1).
- Sengar River primarily exhibits dendritic drainage pattern with a meandering course.
- The basin lies in the Gangetic Plain (Upper Gangetic Plains - 7A) biogeographic zone.
- The basin experiences subtropical climate with hot summers, distinct monsoon and cold winters.
- Sirsa and Awagarh Nala are the major tributaries of the Sengar River.
- The population density along the river is 783.12 persons/km² (Figure 1).

- Decadal LULC transitions in the Sengar River basin (2008–09 to 2018–19) recorded an increase in areas under double/triple-cropping by 15.79%, built-up (1.01%) and marginal increase in areas under rabi crop (0.01%), plantations, deciduous forest, littoral areas, and scrub/deciduous forest. In contrast, substantial reductions occurred in kharif crop (-7.16%), current fallow (-5.70%), wasteland (-3.64%), and waterbodies (-0.31%) (Figures 2a and 2b).

Figure 1: Map of Sengar River basin



BIODIVERSITY VALUE

- Sengar basin is dominated by non-forest areas (99.23%), followed by open forest (0.65%), scrubland (0.1%) and moderately dense forest (0.02%) (Figure 3).
- Sengar River basin is predominantly characterised by Northern Tropical Dry Deciduous Forests and Northern Tropical Thorn Forests, with strong ravine-associated and riparian modifications across its course. The upper stretch, flowing through Hathras, Etah, and Firozabad, corresponds mainly to Dry Deciduous Scrub and Thorn Scrub, dominated by *Acacia nilotica*, *Prosopis juliflora*, *Ziziphus nummularia*, *Capparis decidua*, and grassland assemblages of *Desmostachya bipinnata* and *Cynodon dactylon*. The middle stretch, extending across Mainpuri and Etawah, transitions into Northern Dry Mixed Deciduous Forest and ravine–thorn vegetation complexes, supporting riparian belts of *Anogeissus latifolia*, *Butea monosperma*, *Acacia catechu*, *Dalbergia sissoo*, and *Ficus* spp., along with ravine scrubs of *Prosopis* and *Euphorbia* species. The lower stretch, entering Auraiya and Kanpur Dehat before meeting the Yamuna, is defined by Alluvial Riverine Forests and Floodplain Grasslands, marked by *Saccharum spontaneum*, *Chrysopogon fulvus*, *Desmostachya bipinnata*, and *Cyperus* spp., interspersed with riverine tree species such as *Terminalia arjuna*, *Dalbergia sissoo*, *Syzygium cumini*, and *Tamarix dioica*.
- Patna Bird Sanctuary and Saman Bird Sanctuary in the basin, are designated as a Wetland of International Importance under the Ramsar Convention.
- Mammal species such as golden jackal (*Canis aureus*) and common palm civet (*Paradoxurus hermaphroditus*) have been recorded from Patna Bird Sanctuary.
- 167 birds from Patna Bird Sanctuary and 126 species from Saman Bird Sanctuary have been recorded, including the endangered Egyptian vulture (*Neophron percnopterus*) and Steppe eagle (*Aquila nipalensis*), and vulnerable sarus crane (*Grus antigone*), common pochard (*Aythya ferina*) and river tern (*Sterna aurantia*).

DRIVERS OF RIVERSCAPE CHANGE

- Sengar River basin faces escalating flood vulnerability due to climate-change-driven shifts in monsoon intensity and hydrological variability. Extreme rainfall episodes—such as the August 2025 event in the Yamuna basin—triggered extensive overbank flooding across Etawah and Kanpur Dehat, inundating more than 400 villages and over 4,000 ha of agricultural land, and reshaping floodplain dynamics.
- In Etawah and Kanpur districts, the river is heavily impacted by agricultural runoff. The extensive use of fertilizers and pesticides in the surrounding Doab region leads to high nutrient loading, causing eutrophication and altering the river's biological integrity.
- Sengar River receives pollution loads from industrial clusters, notably the glass industry in Firozabad. Untreated or partially treated effluents from these units contribute to heavy metal contamination and increased chemical oxygen demand in the river, degrading water quality and aquatic habitat.

INTERESTING FACTS

- Regional folklore suggests that the Sengar River, formerly referred to as “Basind,” derived its present name from the Sengar Rajput clan, believed to descend from Shringi Rishi, the sage who married Shanta, daughter of Raja Dashrath, and who consolidated power in the Etawah–Auraiya landscape.
- In the context of the 1857 uprising, the Sengar River constituted an important geomorphic and strategic feature in Etawah, where both the northeastern tract and the southern belt extending toward the Yamuna functioned as active conflict zones between British forces and local rebel groups.
- The river's cultural legacy was forged in 1101 AD by Raja Vishok Dev Sengar of Kanar, who, upon defeating the Meos to establish his kingdom, stamped his name onto the very landscape. In a symbolic claiming of the waters, he renamed the ancient Basind to the Sengar, a shift immortalized in the folk verse “*Bahat Basind nadi tahn eka, naam badali Sengar nad teka*”—forever binding the river's flow to the history of his dynasty.
- Along the Sengar River in Kanpur Dehat lies the famed Durvasa Rishi Ashram at Nigohi, an ancient hermitage where Sage Durvasa is believed to have meditated with 10,000 disciples. Locally regarded as a sacred stretch whose waters are revered like the Ganga, this site represents one of the region's most enduring cultural landmarks along the river.



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/NCR

Ganga Aqualife 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