

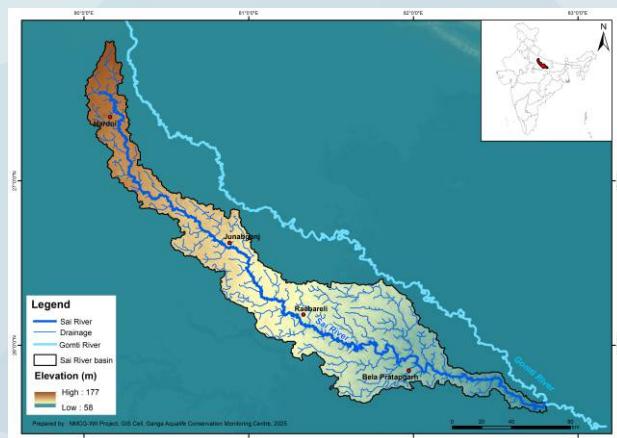
Sai

GENERAL INFORMATION

- Sai River, a tributary of Gomti River, originates from Bijgwan Jheel near Pihani (Hardoi district, Uttar Pradesh), and flows for about 600 km, following a northwest-southeast course, through the Hardoi, Unnao, Raebareli, Pratapgarh, Sultanpur and Jaunpur districts in Uttar Pradesh.
- It meets the Gomti River at Rajepur village in Jaunpur district.
- Sai River basin spans an area of about 11,952 km² (Figure 1).
- The basin falls under the Gangetic Plain (Upper Gangetic Plains – 7A) biogeographic zone.
- The climate of the basin is subtropical monsoon.
- The basin is characterized by undulating topography with low relief, featuring entrenched river valleys, numerous ponds and lakes, and distinct alluvial ridges.
- Major tributaries joining the Sai include the Bhainsta, Loni, Sakarni and Bakulahi.
- The population density along the river is 808.49 persons/km².

- Decadal LULC transitions in the Sai basin (2008-09 to 2018-19) reflect intensified agriculture and urban growth, with increase in area under double/triple crop (14.99%), scrub forest (7.93%), current fallow (3.49%), kharif crop (2.67%), and built-up areas (1.44%). However, plantation (8.24%), rabi crop (7.74%), wasteland (7.58%), water bodies (5.68%), and deciduous forest (1.28%) declined (Figures 2a and 2b).

Figure 1: Map of Sai River basin



BIODIVERSITY VALUE

- Sai basin is dominated by non-forest areas (96.33%), followed by, open forest (3.31%), moderately dense forest (0.32%), and scrubland (0.04%) (Figure 3).
- The upper basin (*Terai region*) supports Tropical Moist Deciduous Forest dominated by sal (*Shorea robusta*), teak (*Tectona grandis*) and shisham (*Dalbergia sissoo*), while the middle and lower basin supports Tropical Dry Deciduous Forest dominated by khair (*Senegalia catechu*), palash (*Butea monosperma*), and Littoral and Swamp Forest are dominated by khair (*Senegalia catechu*), *Ficus* spp., babul (*Acacia nilotica*) and jamun (*Syzygium cumini*).
- 12 mammalian species have been recorded from the Nawabganj Bird Sanctuary. Key mammals found in the basin include Asian palm civet (*Paradoxurus hermaphroditus*), Bengal fox (*Vulpes bengalensis*), Indian jackal (*Canis aureus indicus*), and nilgai (*Boselaphus tragocamelus*).

- 150 and 78 bird species have been documented from the Nawabganj and Samaspur bird sanctuaries, respectively. The basin supports the Endangered Pallas's fish eagle (*Haliaeetus leucoryphus*), Egyptian vulture (*Neophron percnopterus*), river tern (*Sterna aurantia*), greater spotted eagle (*Aquila clanga*) and common pochard (*Aythya ferina*), and Vulnerable sarus crane (*Grus antigone*).
- Nawabganj Bird Sanctuary supports 14 reptilian species, including the Endangered Indian narrow-headed softshell turtle (*Chitra indica*), whose illegal trade poses a significant conservation challenge in Uttar Pradesh, particularly across the Terai region.
- 67 fish species (11 orders and 28 families) have been documented from the river, including the Endangered golden mahseer (*Tor putitora*), *Clarias magur*, and Vulnerable *Wallago attu*.

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

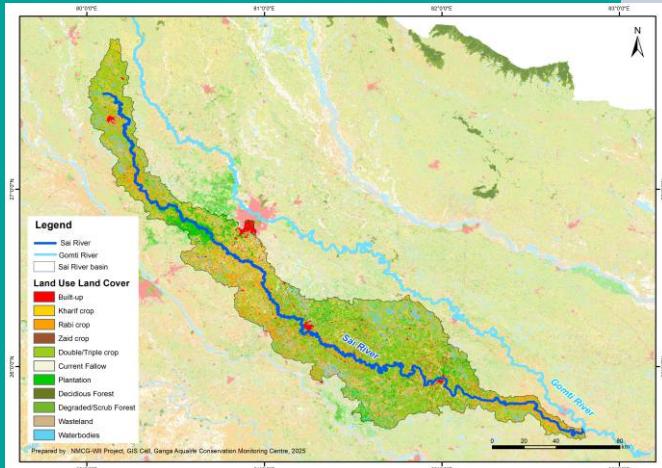


Figure 2b: LULC map of Sai River basin (2018-19)

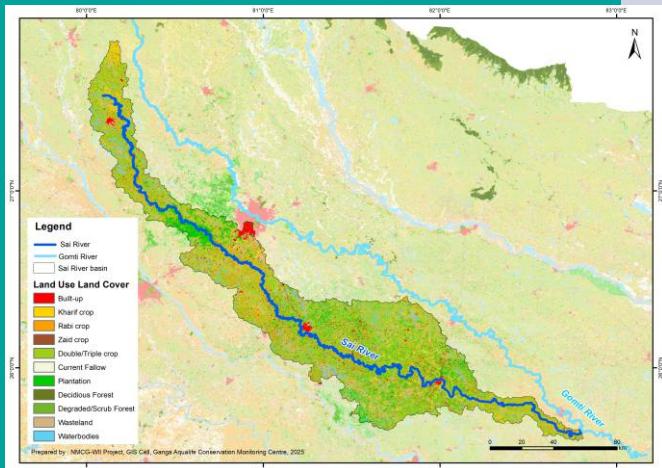
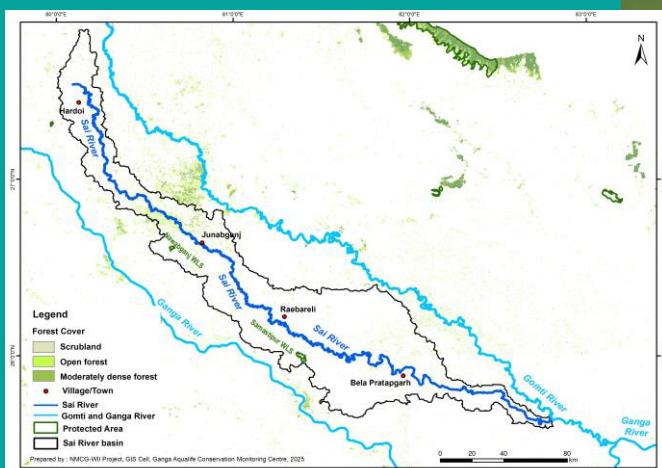


Figure 3: Forest cover of Sai River basin (2019)



CONSERVATION SIGNIFICANCE

ENDANGERED

Avifauna

Pallas's fish eagle *Haliaeetus leucoryphus* (Pallas, 1771)

Egyptian vulture *Neophron percnopterus* (Linnaeus, 1758)

Fish

Golden mahseer *Tor putitora* (Hamilton, 1822)

Clarias magur (Hamilton, 1822)

Glyptothorax madraspatanus (Day, 1873)

VULNERABLE

Avifauna

Sarus crane *Grus antigone* (Linnaeus, 1758)

River tern *Sterna aurantia* (Gray, 1831)

Greater spotted Eagle *Aquila clanga* (Pallas, 1811)

Common pochard *Aythya ferina* (Linnaeus, 1758)

Fish

Wallago attu (Bloch and Schneider, 1801)

KEY PROTECTED AREAS

Samaspur Wildlife Sanctuary

Nawabganj Wildlife Sanctuary
(Shaheed Chandra Shekhar Azad Bird Sanctuary)

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DRIVERS OF RIVERSCAPE CHANGE

- Municipal waste, untreated sewage, industrial effluent, and encroachment have severely impacted the Sai River in Rae Bareli district, leading to significant degradation of its water quality.
- Substantial encroachment of the river's banks and bed, particularly from its source to Rae Bareli district, has significantly altered the river's natural flow. In areas near Unnao, the river width has been reduced by approximately 6 m due to settlements along the riverbanks.
- Heavy metal contamination, particularly from lead, poses potential risks to both aquatic organisms and human populations dependent on the river.
- Overfishing is a major concern in the highly populated districts.

INTERESTING FACTS

- Sai River is considered sacred in Hinduism and is referenced in the Ramcharitmanas by Goswami Tulsidas as well as in the Puranas.
- Belha Bhawani Devi Temple, an 19th century temple dedicated to Goddess Belha (an incarnation of Goddess Parvati, the consort of Lord Shiva), is situated on the banks of the Sai River in Pratapgarh. The temple is also associated with Lord Ram.
- The ancient Kot Buddhist Monastery, located near the Sai River in Pratapgarh, is a significant Buddhist site featuring a stupa and archaeological ruins, and is an important historical landmark of the district.
- Sarai Nahar Rai village (Pratapgarh district) is an archaeologically significant site where well-preserved human fossil remains, known as the "Sarai Nahar Rai Man," dating to the early Holocene epoch, were excavated in 1970. These remains provided the first significant fossil evidence of *Homo sapiens sapiens* in South Asia, and are crucial for understanding human evolutionary dynamics in the South Asian context.



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 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