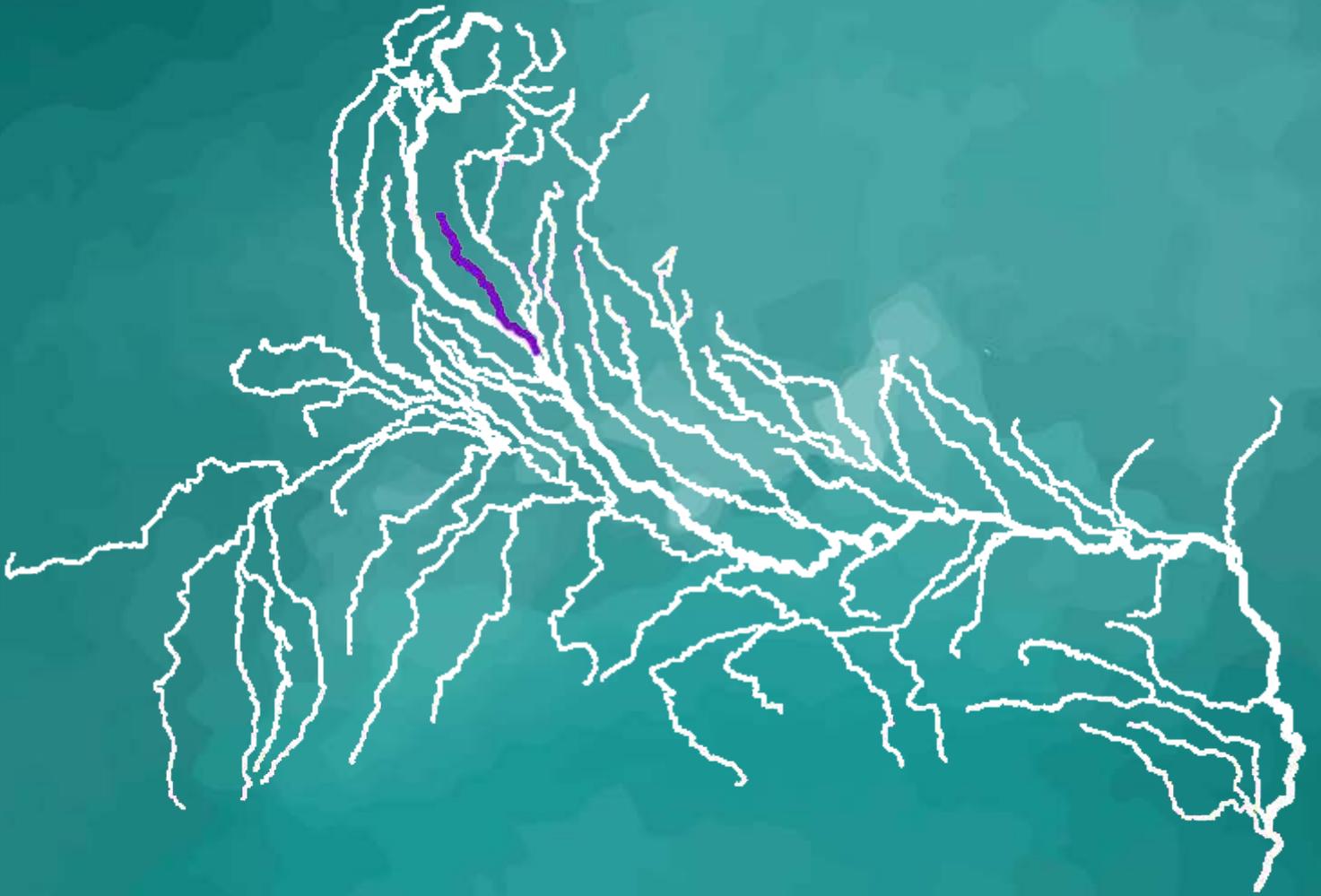


VIBRANT GANGA



भारतीय वन्यजीव संस्थान
Wildlife Institute of India



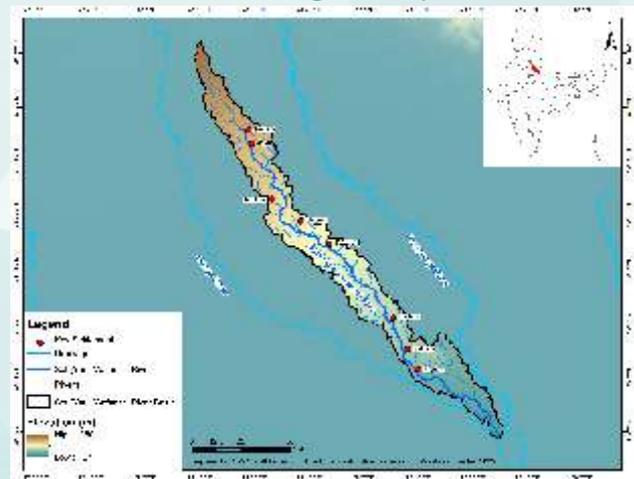
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GENERAL INFORMATION

- Sot (Yar-i-Wafadar) River, a plains-fed tributary of the Ganga River, originates near Panju Sarai in Amroha (formerly Jyotiba Phule Nagar) district, Uttar Pradesh. It flows for 370 km in south-easterly direction through Amroha, Sambhal, Budaun, Shahjahanpur and Farrukhabad districts in Uttar Pradesh.
- It meets the Ganga River in Kusuma Pur village, Farrukhabad district.
- Sot River basin spans an area of 3254 km² (Figure 1).
- The basin lies in the Gangetic Plain (Upper Gangetic Plains – 7A) biogeographic zone.
- Sot basin experiences subtropical monsoon climate, characterised by hot summer, an intense monsoon, and cool to mild winters.
- Sot River exhibits a meandering channel pattern typical of rivers flowing through low-gradient alluvial plains marked by meander scars and oxbow lakes. The riverscape is characterised by khadar (active floodplain) along the channel and bhangar (older alluvial terraces) beyond the immediate floodplain.
- Sot River does not have any major named tributaries and is primarily sustained by local runoff and numerous small, unnamed seasonal streams and drainage channels along its course.

- The population density along the river is 767.29 persons/km².
- Decadal LULC transitions in the Sot basin (2008–09 to 2018–19) recorded an increase in area under rabi crop (7.94%), kharif crop (2.10%), built-up areas (0.75%), current fallow land (0.64%) and plantation (0.03%), and a decrease in double/triple crop (-9.99%), wasteland (-1.44%), water bodies (-0.02%) and grassland (-0.02%), with no change in deciduous and scrub forest cover, indicating declining cropping intensity, gradual urban expansion, and reduced surface water retention and groundwater recharge (Figures 2a and 2b).

Figure 1: Map of Sot River basin



BIODIVERSITY VALUE

- Sot basin is dominated by non-forest areas (99.15%), followed by open forest (0.65%) and moderately dense forest (0.20%) (Figure 3).
- Sot basin predominantly supports Northern Dry Mixed Deciduous Forest, with *Dalbergia sissoo*, *Acacia nilotica*, *Syzygium cumini*, *Azadirachta indica*, *Madhuca longifolia*, and *Ficus* spp. occurring in the upper reaches, riparian fringing forests with *Terminalia arjuna*, *Dalbergia sissoo*, *Syzygium cumini*, and *Barringtonia acutangula* in the middle stretch, and edaphic alluvial grassland–swamp vegetation in the lower floodplains dominated by *Saccharum spontaneum* and associated grasses, interspersed with riverine trees such as *Acacia nilotica*, *Salix tetrasperma*, and *Tamarix dioica*.
- 28 mammalian species, including the Endangered hog deer (*Axis porcinus*), and Vulnerable fishing cat (*Prionailurus viverrinus*), barasingha (*Rucervus duvaucelii*) and smooth-coated otter (*Lutrogale perspicillata*) have been documented from Hastinapur Wildlife Sanctuary, located in the basin.
- 230 bird species have been recorded from the Hastinapur Wildlife Sanctuary, including the Critically Endangered red-headed vulture (*Sarcogyps calvus*), Endangered Indian skimmer (*Rynchops albicollis*), and black-bellied tern (*Sterna acuticauda*), and Vulnerable sarus crane (*Grus antigone*) and river tern (*Sterna aurantia*). 32 bird species have been documented from Shahjahanpur district, including the Vulnerable common pochard (*Aythya ferina*).
- 25 reptilian species have been documented from the Hastinapur Wildlife Sanctuary, including the Critically Endangered gharial (*Gavialis gangeticus*), three-striped roofed turtle (*Batagur dhongoka*) and elongated tortoise (*Indotestudo elongata*), and Vulnerable mugger (*Crocodylus palustris*).

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

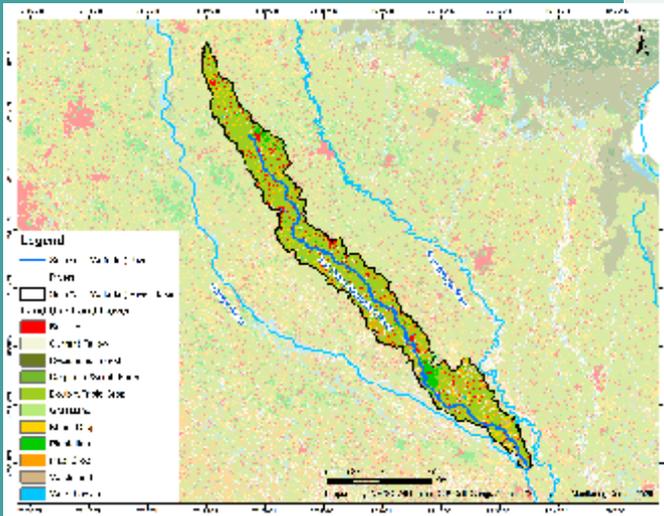


Figure 2b: LULC map of Sot River basin (2018-19)

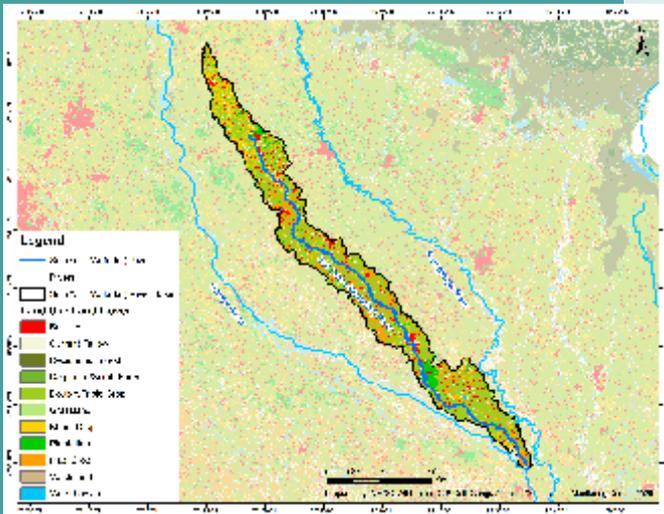
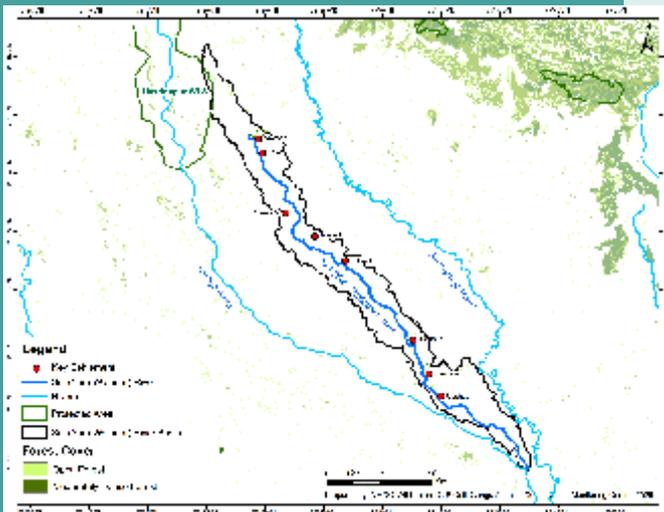


Figure 3: Forest cover of Sot River basin (2019)



CONSERVATION SIGNIFICANCE

CRITICALLY ENDANGERED

Reptile

Gharial *Gavialis gangeticus*
(Gmelin in Linnaeus, 1789)

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

Elongated tortoise *Indotestudo elongata*
(Blyth, 1853)

ENDANGERED

Avifauna

Indian skimmer *Rynchops albicollis*
(Swainson, 1838)

Black-bellied tern *Sterna acuticauda* (Gray, 1832)

Reptile

Spotted pond turtle *Geoclemys hamiltonii*
(Gray, 1830)

Crowned river turtle *Hardella thurjii* (Gray, 1831)

Indian softshell turtle *Nilssonina gangetica*
(Cuvier, 1825)

Indian peacock softshell turtle *Nilssonina hurum*
(Gray, 1830)

Indian narrow-headed softshell turtle
Chitra indica (Gray, 1830)

VULNERABLE

Avifauna

River tern *Sterna aurantia* (Gray, 1831)

Common pochard *Aythya ferina* (Linnaeus, 1758)

Sarus crane *Grus antigone* (Linnaeus, 1758)

Reptile

Mugger *Crocodylus palustris* (Lesson, 1831)

Indian roofed turtle *Pangshura tecta* (Gray, 1830)

Indian flapshell turtle *Lissemys punctata*
(Lacépède, 1788)

Mammal

Fishing cat *Prionailurus viverrinus* (Bennett,
1833)

Swamp deer *Rucervus duvaucelii* (G. Cuvier, 1823)

Smooth-coated otter *Lutrogale perspicillata*
(I. Geoffroy Saint-Hilaire, 1826)

KEY PROTECTED AREAS

Hastinapur Wildlife Sanctuary

DRIVERS OF RIVERSCAPE CHANGE

- Encroachment of agriculture and settlements into the river bed and floodplain has reduced the active river corridor, constrained channel movement, altered natural flow paths, disrupted floodplain connectivity, and adversely affected the river's hydrological and ecological functioning.
- Agricultural intensification combined with low forest cover has altered natural runoff patterns, increased sediment inflow, and reduced riparian buffering capacity.
- Agricultural runoff, discharge of untreated sewage and industrial effluent, and dumping of solid waste from urban centres along the river, such as Amroha, Budaun and Faizganj (Budaun district), has deteriorated the river's water quality.
- High seasonal discharge and flooding during the monsoon accelerate riverbank erosion and promote meander migration, leading to the formation of cut-off meanders, oxbow lakes and meander scars.

Smooth-coated otter (*Lutrogale perspicillata*) | ©Harshit Sharma



INTERESTING FACTS

- Sot River was conferred the name *Yar-i-Wafadar* ("loyal friend") by the Mughal emperor Muhammad Shah after, according to historical accounts, it provided respite from heat and thirst to his army while marching against the Rohillas in 1746 from Sambhal to Budaun.
- Sot River drains the Rohilkhand region of the upper Gangetic plains, a historically significant tract of western Uttar Pradesh. Formerly known as Katiher, the region came to be called Rohilkhand in the 18th century after Afghan Rohilla chiefs from Roh (near Peshawar) established their rule under Ali Muhammad Khan in 1720s, during the decline of the Mughal Empire. Characterised by fertile riverine plains between the Himalayan foothills and the Ganga, Rohilkhand became a contested political landscape following the Rohilla–Awadh–British conflicts, culminating in the defeat of Rohilla forces in 1774 and eventual British annexation in 1801. The region later emerged as an important centre of resistance during the 1857 uprising under Khan Bahadur Khan.
- Budaun, a historically significant city on the banks of the Sot River, is known in early records as Bedamooth and is locally associated with the Mahabharata period. It rose to prominence during the Delhi Sultanate, serving as an important administrative centre under Sultan Iltutmish (r. 1211–1236), who commissioned the Jama Masjid in 1223—one of the oldest mosques in northern India. The city later emerged as a major centre of Sufi learning, earning the title *Madinatul Awliya* (City of Saints), and remains characterised by historic mosques, temples, and shrines reflecting its syncretic cultural heritage.
- Amroha is the birthplace of Jaun Elia (Syed Hussain Sibt-e-Asghar Naqvi), a renowned Urdu poet who migrated to Pakistan after the '1947 Partition of India'.



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