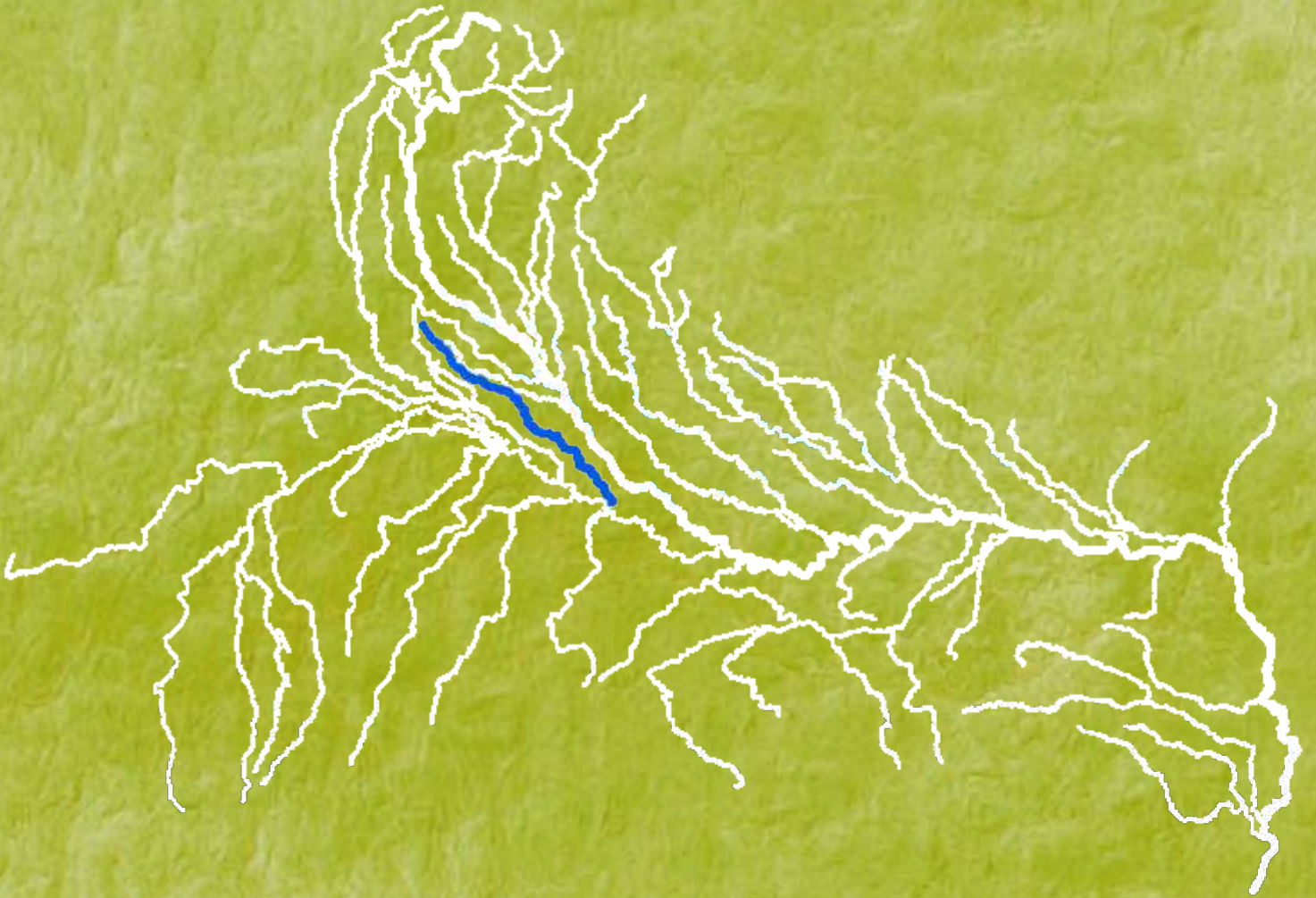


VIBRANT GANGA



भारतीय वन्यजीव संस्थान
Wildlife Institute of India



Arind

GENERAL INFORMATION

- Arind (Rind) River is a rain-fed left bank tributary of the Yamuna River, which originates near Nanau village in Aligarh district of Uttar Pradesh.
- It flows for 685 km through the districts of Aligarh, Hathras, Etah, Firozabad, Mainpuri, Kannauj, Auraiya, Kanpur Dehat, Kanpur Nagar, and Fatehpur.
- It joins the Yamuna River near Dariyabad in Fatehpur district (Uttar Pradesh).
- Arind River basin spans an area of about 6440 km² (Figure 1).
- The basin lies in the Gangetic Plain (Upper Gangetic Plains- 7A) biogeographic zone.
- Arind exhibits a dendritic drainage pattern.
- Arind basin has a subtropical, semi-arid climate with an intensely hot-dry summer, a humid monsoon season, and a cool dry winter.
- Ahneya and Siyari Nala are the major tributaries of the Arind River.
- The population density along the river is 780 persons/km².

- Decadal LULC transitions in the Arind River basin (2008–09 to 2018–19) recorded an increase in area under double/triple crop by 25.49%, built-up (1.09%), plantations (0.01%) and deciduous forest (0.01%). Declines were observed in kharif crop (-6.27%), rabi crop (-5.86%), current fallow (-9.63%), wasteland (-4.63%), deciduous/scrub forest (-0.01%) and waterbodies (-0.20%). Marginal to no changes were noted in grassland (nil) (Figures 2a and 2b).

Figure 1: Map of Arind River basin



BIODIVERSITY VALUE

- Arind River basin is dominated by non-forest areas (99.11%), followed by open forest (0.75%), moderately dense forest (0.13%) and scrub land (0.01%) (Figure 3).
- Arind River basin is predominantly characterised by Northern Tropical Dry Deciduous Forests and Northern Tropical Thorn Forests. The upper stretch in the Aligarh–Etah region corresponds to Dry Deciduous Scrub and Thorn Scrub, dominated by *Acacia nilotica*, *Prosopis juliflora*, *Ziziphus nummularia*, *Capparis decidua*, and grasses like *Desmostachya bipinnata* and *Cynodon dactylon*. Downstream, the middle reach transitions into Dry Mixed Deciduous Forest, supporting riparian belts of *Dalbergia sissoo*, *Terminalia arjuna*, *Syzygium cumini*, and *Ficus* spp., interspersed with tall grass and reed communities of *Saccharum spontaneum*, *Phragmites karka*, and *Typha angustifolia*. The lower stretch near the confluence with the Yamuna River reflects alluvial floodplain and riverine subtypes, marked by seasonally inundated grasslands dominated by *Saccharum spontaneum*, *Desmostachya bipinnata*, *Chrysopogon aciculatus*, and *Cyperus* spp., with scattered riparian trees such as *Dalbergia sissoo*, *Acacia nilotica*, *Salix tetrasperma*, and *Tamarix dioica*.
- Saman Bird Sanctuary in the basin, is designated as a Wetland of International Importance under the Ramsar Convention.
- Among mammals, Near threatened Indian flying fox *Pteropus medius* have been reported from Aligarh.
- 174 species of birds from Aligarh district, and 126 species from Saman Bird Sanctuary, including the endangered Egyptian vulture (*Neophron percnopterus*) and Steppe eagle (*Aquila nipalensis*), and vulnerable sarus crane (*Grus antigone*), common pochard (*Aythya ferina*).
- Vulnerable Indian flapshell turtle (*Lissemys punctata*) have been recorded from the river.

DRIVERS OF RIVERSCAPE CHANGE

- Industrial effluent discharge from tanneries and leather-processing units in the Fatehpur-Roshnai-Rania industrial belt is a major driver of ecological degradation in the Arind River.
- Untreated toxic effluent containing sulphides, phenols, chromium, and tannic acids is directly discharged into the river near Kanpur, which is known to be lethal to aquatic biodiversity.
- Abstraction of water for irrigation has altered the natural flow regime of the Rind River, reducing discharge during lean seasons and intensifying stress on aquatic habitats and riverine biota.
- Agricultural runoff carrying agrochemicals and sediments further contributes to biotic disturbance by increasing nutrient loads and turbidity, leading to habitat degradation and adverse impacts on aquatic biodiversity.

INTERESTING FACTS

- Kannauj, served as the imperial capital of North India during the early medieval period and is widely known for its long-standing perfumery (ittar) tradition and its prominence as a political and cultural centre under the Gurjara-Pratihara dynasty.
- Kanpur Nagar evolved into a major industrial node following the establishment of the Kanpur Cantonment, subsequently developing extensive textile and leather-processing clusters that positioned it among Asia's largest tannery hubs. Kanpur was the pivotal epicenter of the 1857 Indian Rebellion, serving as a major center of revolt led by Nana Sahib.
- Aligarh, formerly called Kol, is renowned for its traditional lock industry and the founding of Aligarh Muslim University by Sir Syed Ahmad Khan, and its 16th-century Aligarh Fort from Ibrahim Lodhi's era stands as a key marker of the region's historical legacy.
- Fatehpur's historic Bawani Imli site marks a major episode of the freedom struggle, where fifty-two revolutionaries were hanged by the British on an 'Imli' tree near Khajuha. Local tradition holds that the tree stopped growing after the massacre, making the site an enduring symbol of collective sacrifice.



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